Date: April 19, 2024   Initials:

1.   **SURNAME:** Leyton-Brown   **FIRST NAME:** Kevin
                                           MIDDLE NAME: Eric

2.   **DEPARTMENT/SCHOOL:** Computer Science

3.   **FACULTY:** Science

4.   **PRESENT RANK:** Professor   **SINCE:** July 1, 2014

5.   **POST-SECONDARY EDUCATION**

(a)   Degrees

University or Institution	Degree	Subject Area	Date
Stanford University	Ph.D.	Computer Science	2003
Stanford University	M.Sc.	Computer Science	2002
McMaster University	B.Sc.	Computer Science	1998

Title of Ph.D. Dissertation: Resource Allocation in Competitive Multiagent Systems
Name of Supervisor: Yoav Shoham

6.   **EMPLOYMENT RECORD**

(a)   Prior to coming to UBC: no previous, full-time employment

(b)   At UBC

Rank or Title	Date
Distinguished University Scholar	April 26, 2021
Canada CIFAR Artificial Intelligence Chair, Alberta Machine Intelligence Institute	April 8, 2019
Director, Center for Artificial Intelligence Decision-making and Action (CAIDA)	October 1, 2017
Associate Member, Vancouver School of Economics	July 1, 2015
Professor, Computer Science	July 1, 2014
Associate Professor, Computer Science	July 1, 2009
Assistant Professor, Computer Science	January 1, 2004

(c)   Date of granting of tenure at UBC: July 1, 2009

7.   **LEAVES OF ABSENCE**

University or Company at which Leave was Taken	Type of Leave	Dates
UBC	Sabbatical	Jul 2023 – Jun 2024
Simons Institute for Theory of Computing, UC Berkeley	Visiting Scientist*	Apr – May 2022
UBC and:	Sabbatical	Jul 2017 – Jun 2018
Microsoft Research New York City	—	*Jan – Feb 2018*

---

*This position involved a long absence from UBC but not a formal leave.

7.   LEAVES OF ABSENCE   *(continued)*

University or Company at which Leave was Taken	Type of Leave	Dates
Technion, Haifa, Israel	—	*Apr 2018*
Hebrew University, Jerusalem, Israel	—	*May 2018*
Simons Institute for Theory of Computing, UC Berkeley	Visiting Scientist*	Aug – Sept; Nov 2016
Microsoft Research New England and Harvard University	Visiting Researcher	Mar – Jun 2016
Simons Institute for Theory of Computing, UC Berkeley	Visiting Scientist*	Sept – Dec 2015
UBC and:	Sabbatical	Jul 2010 – Jun 2011
Makerere University, Kampala, Uganda	—	*Sept 2010 – Jan 2011*
Hebrew University, Jerusalem, Israel	—	*Mar 2011 – Jun 2011*

8.   TEACHING

(a)   Areas of special interest and accomplishments

1. **Killam Teaching Award:** In 2014, I received this university-wide award (see Section 12(a)) recognizing sustained teaching excellence, ability to motivate students and stimulate critical thinking, and development of innovative approaches to teaching methodology and curricula. In the 2013–14 academic year, four awards were given in the Faculty of Science and 23 across the university; at the time, UBC Vancouver had 4,659 faculty.

2. **Game Theory Online:** With Matt Jackson and Yoav Shoham of Stanford University, I co-taught this massive, open online course (MOOC). Over multiple offerings we've reached over 1,095,000 registrants. Our first offering was also UBC's first, and Coursera's second-biggest course to that date. We drew students from every Canadian province, every US state, and 183 countries overall. The seven-week course consisted of video lectures, quizzes, problem sets, discussion forums, weekly "screenside chats" between students and all three instructors, interactive game-playing labs, and a final exam. We subsequently offered a second, four-week course following the same format.

3. **Publication of two textbooks**, *Multiagent Systems: Algorithmic, Game Theoretic, and Logical Foundations* (Cambridge University Press, 2009) and *Essentials of Game Theory* (Morgan & Claypool Publishers, 2008), both written with Yoav Shoham. These texts have been used as the basis for courses at dozens of universities in North America, Europe and Asia, and for the CPSC 532L and ISCI 330 courses at UBC. The books have received 4,200 citations (Google Scholar, September 22, 2023), have sold over 6,000 copies, and have been downloaded over 91,840 times by readers in 207 different countries (Google Analytics, November 23, 2022).

4. **Redesign of CPSC 430, Computers and Society:** I dramatically redesigned this course around custom-built, open-source software that supports an elaborate system of peer grading, calibration, TA spot-checking, and AI tools for determining how to aggregate peer grades to produce final student grades. More specifically, each week students read a textbook chapter, take an online quiz, submit a 300-word essay, and peer-evaluate other students' essays. Classes are devoted to interaction, with custom in-class participation tracking tools helping to keep the same set of students from dominating classroom discussions and adjusting students' peer grading workloads based on in-class engagement. For more details see S26 in "Other Works: Software Released Publicly" at the end of my CV.

5. **Design of CPSC 532L, Artificial Intelligence for Social Impact:** This course focuses on applying AI to solve practical problems faced by a local nonprofit. The course's key goal is for students to learn how to leverage existing technical skill in AI into real world impact. Beyond the application of technical ideas, the course emphasizes experiential learning: building a relationship with a client, problem identification, refining goals in the face of new information, and communicating project progress. The course was co-developed with Prof. Scott Kominers of Harvard Business School.

(b)   Courses Taught at UBC

Session	Course Number	Scheduled Hours	Class Size	Hours Taught			
				Lectures	Tutorials	Labs	Other
Winter 2023	CSPC 532L	3	13	3			
Fall 2022	CSPC 430	3	120	3			

(continues on next page...)

---

*This position involved a long absence from UBC but not a formal leave.

(b)   Courses Taught at UBC   (continued)

Session	Course Number	Scheduled Hours	Class Size	Hours Taught			
				Lectures	Tutorials	Labs	Other
Winter 2022	CSPC 532L	3	34*	3			
Fall 2021	CPSC 430	3	113	3			
Winter 2021	CPSC 430	3	120	3			
Fall 2020	COGS 200	3	140	3			
Winter 2020	CPSC 532L	3	4	3			
Fall 2019	CPSC 430	3	118	3			
Winter 2019	CPSC 532L	3	7	3			
Fall 2018	CPSC 430	3	116	3			
Fall 2014	CPSC 430	3	92	3			
Winter 2014	CPSC 532L	3	15	3			
Fall 2013	CPSC 430	3	72	3			
Winter 2013	CPSC 532L	3	11	3			
Fall 2012	CPSC 430	3	69	3			
Winter 2012	CPSC 430	3	53	3			
Fall 2011	CPSC 532L	3	17	3			
Fall 2009	CPSC 322	3	59	3			
Winter 2008	CPSC 532L	3	20	3			
Fall 2008	CPSC 322	3	82	3			
Winter 2008	CPSC 532L	3	17	3			
Fall 2007	CPSC 322	3	44	3			
Winter 2007	ISCI 330	3	12	3			
Winter 2007	CPSC 322	3	45	3			
Fall 2006	CPSC 532A	3	15	3			
Winter 2006	CPSC 322	3	67	3			
Fall 2005	CPSC 532A	3	22	3			
Winter 2005	CPSC 532A	3	9	3			
Winter 2004	CPSC 532A	3	9	3			

Massive, Open Online Courses (MOOCs)

Start Date	Title	Platform	Students	Weeks	Co-Instructors
Aug 10, 2016[†]	Game Theory II	Coursera	$> 47{,}000$	4	Matt Jackson, Yoav Shoham
Aug 10, 2016[†]	Game Theory I	Coursera	$> 503{,}000$	7	Matt Jackson, Yoav Shoham
Jan 8, 2016	Game Theory II	Coursera	$> 16{,}000$	4	Matt Jackson, Yoav Shoham
Sept 11, 2015	Game Theory I	Coursera	$> 83{,}000$	7	Matt Jackson, Yoav Shoham
Jan 11, 2015	Game Theory II	Coursera	$> 33{,}000$	4	Matt Jackson, Yoav Shoham
Oct 5, 2014	Game Theory I	Coursera	$> 88{,}000$	7	Matt Jackson, Yoav Shoham
Jan 13, 2014	Game Theory II	Coursera	$> 38{,}000$	4	Matt Jackson, Yoav Shoham
Oct 14, 2013	Game Theory I	Coursera	$> 80{,}000$	7	Matt Jackson, Yoav Shoham
May 27, 2013	Game Theory II	Google	$> 11{,}000$	4	Matt Jackson, Yoav Shoham
Jan 7, 2013	Game Theory I	Coursera	$> 195{,}000$	7	Matt Jackson, Yoav Shoham

---

*Jointly offered by UBC (as CPSC 530L/532L) and the University of Alberta (as CMPUT 654). James Wright co-taught on the Alberta side. We had 13 students registered at UBC and another 21 students registered at Alberta.

[†]Unlike the previous offerings, which started and ended on fixed dates, these MOOC offerings are "evergreen": new students sign up every week and complete the course at their own pace. (Enrollment numbers updated April 17, 2024.)

Funding for Course Development

Source	Course	Total Funds	Year(s)	PI *(Co-PIs in italics)*
UBC CTLT	Game Theory Online	$11,500	2013–14	Kevin Leyton-Brown
UBC CTLT	Game Theory Online	$50,000	2012–13	Kevin Leyton-Brown
UBC CS	Game Theory Online	$5,000	2012–13	Kevin Leyton-Brown
UBC CWSEI	CPSC 430	$13,000	2012–14	Kevin Leyton-Brown
UBC CWSEI	CPSC 322	$28,000	2008–10	Giuseppe Carenini, Kevin Leyton-Brown, *Cristina Conati*, *Alan Mackworth*, *David Poole*

Funding for Teaching Relief

Source	Total Funds	Year(s)	PI *(Co-PIs in italics)*
NSERC E.W.R. Steacie Memorial Fellowship	$180,000	2015–16	Kevin Leyton-Brown

(c)   Student Supervision and Cosupervision

Graduate Students

Here and below, start year indicates when I began to supervise a student, not when the student enrolled in the program.

Student Name	Program	Year Start	Finish	Principal Supervisor	CoSupervisor
Narun Raman	Ph.D	2023	—	Kevin Leyton-Brown	
Greg d'Eon	Ph.D	2019	—	Kevin Leyton-Brown	
Taylor Lundy	Ph.D	2019	—	Kevin Leyton-Brown	
Devon Graham	Ph.D	2018	—	Kevin Leyton-Brown	
Hedayat Zarkoob	Ph.D	2016	—	Kevin Leyton-Brown	
Chris Cameron	Ph.D	2014	—	Kevin Leyton-Brown	
Neil Newman	Ph.D	2016	2024	Kevin Leyton-Brown	
Narun Raman	M.Sc	2022	2023	Kevin Leyton-Brown	
Jason Hartford	Ph.D*	2016	2021	Kevin Leyton-Brown	
Taylor Lundy	M.Sc.*	2018	2019	Kevin Leyton-Brown[†]	Hu Fu[†]
Neil Newman	M.Sc.*	2014	2016	Kevin Leyton-Brown	
Chris Cameron	M.Sc.	2014	2016	Kevin Leyton-Brown[†]	Holger Hoos[†]
Jason Hartford	M.Sc.*	2014	2016	Kevin Leyton-Brown	
James Wright	Ph.D*	2010	2016	Kevin Leyton-Brown	
Yingsai Dong	M.Sc.	2013	2015	Kevin Leyton-Brown	
Alexandre Fréchette	Ph.D.	2012	DNC[‡]	Kevin Leyton-Brown	
David Thompson	Ph.D*	2007	2015	Kevin Leyton-Brown	
Steve Ramage	M.Sc.*	2012	2015	Kevin Leyton-Brown[†]	Holger Hoos[†]
Lin Xu	Ph.D*	2005	2014	Kevin Leyton-Brown[†]	Holger Hoos[†]
Chris Thornton	M.Sc.*	2012	2013	Kevin Leyton-Brown[†]	Holger Hoos[†]
Baharak Rastegari	Ph.D*	2005	2013	Kevin Leyton-Brown[†]	Anne Condon[†]
Albert Xin Jiang	Ph.D*	2006	2011	Kevin Leyton-Brown	

(continues on next page...)

---

[*]Click the degree name for a link to the student's thesis.

[†]This cosupervision arrangement was symmetric: both faculty members acted as principal supervisors.

[‡]This student left for a job in industry before completing a thesis.

Graduate Students *(continued)*

Student Name	Program	Year Start	Finish	Principal Supervisor	CoSupervisor
Chris Nell	M.Sc.*	2010	2011	Kevin Leyton-Brown[†]	Holger Hoos[†]
James Wright	M.Sc.*	2008	2010	Kevin Leyton-Brown	
Ashiqur KhudaBukhsh	M.Sc.*	2007	2009	Kevin Leyton-Brown[†]	Holger Hoos[†]
Frank Hutter	Ph.D*	2005	2009	Holger Hoos	Kevin Leyton-Brown, Kevin Murphy
Erik Zawadzki	M.Sc.*	2006	2008	Kevin Leyton-Brown	
David Thompson	M.Sc.*	2006	2007	Kevin Leyton-Brown	
Jennifer Tillett	M.Sc.	2005	DNC[‡]	Kevin Leyton-Brown	
Albert Xin Jiang	M.Sc.*	2004	2006	Kevin Leyton-Brown	
Asher Lipson	M.Sc.*	2004	2005	Kevin Leyton-Brown	Nando De Freitas

Postdoctoral Fellows

Fellow Name	Start	Finish	Supervisor(s)
Lars Kotthoff	2015	2017	Holger Hoos, Kevin Leyton-Brown
Alice Gao	2014	2017	Kevin Leyton-Brown
Frank Hutter	2009	2013	Kevin Leyton-Brown, Holger Hoos[†]

Selected Awards and Outcomes for Graduate Students and Postdocs

This includes undergraduate awards for students who worked with me both as undergraduates and as graduate students.

Student Name	Outcome/Award(s)
Yingsai Dong	Now at Facebook.
Alexandre Fréchette	Now at Google. NSERC PGSD2 (2014–17); INFORMS Edelman Prize (2018).
Alice Gao	Now Assistant Professor at Toronto. Previously NSERC-funded postdoc at UBC; PhD student at Harvard, where she held an NSERC PGSD3 (2010–2013) and held a University Graduate Fellowship (2008–10); NSERC USRA (2007).
Jason Hartford	Now postdoc at University of Montreal, working with Yoshua Bengio.
Frank Hutter	Now Professor at the University of Freiburg, Germany, funded by a German Research Foundation (DFG) Emmy Noether award. While at UBC: CAIAC Doctoral Dissertation Award (2009 best thesis in Artificial Intelligence at a Canadian University); DFG Postdoctoral Research Fellowship (2011–12); Postdoctoral Research Fellowship: Canadian Bureau of International Education (2009–10); Doctoral Fellowship: German National Academic Foundation (2006–2008); UBC University Graduate Fellowship (hereafter "UBC UGF"; 2005–07); 3 best paper awards (2011, 2010×2); best poster award (2007); awards at 4 international algorithm competitions (2012; 2009; 2007×2).

(continues on next page...)

---

*Click the degree name for a link to the student's thesis.

[†]This cosupervision arrangement was symmetric: both faculty members acted as principal supervisors.

[‡]This student left for a job in industry before completing a thesis.

Selected Awards and Outcomes for Graduate Students and Postdocs (continued)

Student Name	Outcome/Award(s)
Albert Jiang	Now Assistant Professor at Trinity University, Texas. International Foundation for Autonomous Agents and Multiagent Systems 2011 Victor Lesser Distinguished Dissertation Award (runner up); CAIAC Doctoral Dissertation Award (2011 best thesis in Artificial Intelligence at a Canadian University); best student paper award (2011); NSERC CGSD3 (2007–2010); UBC UGF (2006–09).
Ashiqur KhudaBukhsh	Now Assistant Professor at Rochester Institute of Technology (RIT). Previously PhD student at Carnegie Mellon (CMU). UBC UGF (2006–07).
Lars Kothoff	Now an Assistant Professor at University of Wyoming.
Taylor Lundy	UBC 4-Year Fellowship (4YF).
Chris Nell	Now at deviantART, a Vancouver startup. NSERC CGSM3 (2009–10).
Neil Newman	Now at Auctionomics. Best Paper Award (2020); NSERC PGS-D (2019–20); BC Government Scholarship (2019–20); INFORMS Edelman Prize (2018).
Baharak Rastegari	Now Lecturer (i.e., Assistant Professor) at University of Southampton. UBC UGF (2007–08); UBC CS Student Service Award (2008).
David Thompson	Now at Google. NSERC PGSD3 (2008–11); UBC UGF (2007–11).
Chris Thornton	Now at Google. NSERC PGS (2010–11).
James Wright	Now Associate Professor at University of Alberta. Previously postdoctoral Researcher at Microsoft Research, NYC. Best paper award (2012); NSERC CGSD3 (2010–13); UBC UGF (2010–14); NSERC CGSM3 (2008–09).
Lin Xu	Now Chief Science Officer at GenerationsE, a Vancouver company. IBM Ph.D. Fellowship Award (2011–12); UBC Faculty of Science Graduate Award (2011); 2010 IJCAI-JAIR Best Paper Prize; awards at 3 international algorithm competitions; UBC Pacific Century Graduate Scholarship (2008–09); UBC UGF (2006–07); Precarn Scholarship (2006).
Erik Zawadzki	Now at Facebook. NSERC PGSM (2007–08); NSERC USRA (2006).

Undergraduate Students

Student Name	Program	Start	Finish	Supervisor(s)
Hala Murad	Directed Studies, WLIURA	2023		Leyton-Brown
Siddharth Nand	Directed Studies	2023		Leyton-Brown
Michael DeMarco	WLIURA	2023	2023	Leyton-Brown
Tuan Truong	WLIURA	2022	2023	Leyton-Brown
Sophie Greenwood	NSERC USRA	2022	2023	Leyton-Brown
Alan Milligan	NSERC USRA; RA	2021	2021	Leyton-Brown
Will (Ningyuan) Xu	Research Assistant	2021	2021	Leyton-Brown
Nafis Abrar	Research Assistant	2020	2021	Leyton-Brown
Narun Raman	Research Assistant	2020	2021	Leyton-Brown
Pranay Jain	Research Assistant	2020	2020	Leyton-Brown
Lena Podina	NSERC USRA	2020	2020	Leyton-Brown
Wei-i Lin	Research Assistant	2019	2020	Leyton-Brown
Xuming Feng	UBC GoGlobal Exchange Student	2019	2019	Leyton-Brown
Arman Raina	B.Sc. Honors	2018	2019	Leyton-Brown
Rex Chen	NSERC USRA; B.Sc. Honors	2018	2020	Leyton-Brown
Laura Alvarez Carvajal	UBC GoGlobal Exchange Student	2018	2018	Leyton-Brown

(continues on next page...)

Undergraduate Students   (continued)

Student Name	Program	Start	Finish	Supervisor(s)
Xing Jin	Mitacs Globalink	2018	2018	Leyton-Brown
Anuar Yeraliyev	Directed Studies; B.Sc. Honours	2016	2018	Leyton-Brown
Kevin Yap	B.Sc. Honours	2017	2018	Leyton-Brown
Rachel Han	Research Assistant	2017	2017	Leyton-Brown
Karan Grover	Research Assistant	2016	2017	Gao, Leyton-Brown*
Bole (David) Ma	Research Assistant	2016	2017	Gao, Leyton-Brown*
Peter West	Research Assistant	2016	2017	Leyton-Brown
Oto Alves	Research Assistant	2016	2016	Kotthoff, Leyton-Brown*
Patrick Luk	Research Assistant	2015	2015	Gao, Leyton-Brown*
Ted Grover	Research Assistant	2015	2016	Leyton-Brown
Emily Chen	NSERC USRA	2015	2016	Leyton-Brown
Paul Cernek	Work Learn Summer Research Award	2015	2015	Leyton-Brown
Naveen Kodali	MITACS GlobalLink	2015	2015	Leyton-Brown
Cesar Manduchi	Research assistant	2015	2015	Leyton-Brown
Miguel Gamis	Co-op	2014	2015	Leyton-Brown
Chris Cameron	NSERC USRA	2014	2014	Leyton-Brown
Ricky Chen	Research assistant	2014	2014	Leyton-Brown
Alim Virani	NSERC USRA	2014	2014	Leyton-Brown
Shashank Rai	MITACS GlobalLink	2014	2014	Leyton-Brown
Daniel Geschwender	Research assistant	2013	2013	Hoos, Leyton-Brown*
Steve Ramage	Research assistant	2011	2012	Hutter, Hoos, Leyton-Brown*
Jonathan Shen	Co-op; research assistant	2011	2012	Hutter, Hoos, Leyton-Brown*
Maverick Chan	Co-op; research assistant	2010	2011	Hutter, Hoos, Leyton-Brown*
Samantha Leung	B.Sc. Honours; twice NSERC USRA	2008	2009	Leyton-Brown
Damien Bargiacchi	NSERC USRA; independent study	2008	2008	Leyton-Brown
Alice Gao	B.Sc. Honours	2007	2008	Leyton-Brown
David Ludgate	Cognitive Systems research project	2007	2007	Leyton-Brown
Erik Zawadzki	B.Sc. Honours; NSERC USRA	2005	2006	Leyton-Brown

Selected Awards and Outcomes for Undergraduate Students

Student Name	Outcome/Award(s)
Damien Bargiacchi	Now at Google. NSERC USRA (2008).
Chris Cameron	NSERC USRA (2014).
Paul Cernek	Now at UBC. Work Learn Summer Research Award (2015).
Emily Chen	Now at Bluestacks. NSERC USRA (2015).
Rex Chen	Now a PhD student at CMU. NSERC USRA (2018).
Ricky Chen	Now a PhD student at UBC.
Michael DeMarco	Science Undergraduate Research Experience (SURE) Award (2023).
Sophie Greenwood	Now a PhD student at Cornell. NSERC USRA (2022).
Ted Grover	Now at Reddit after a PhD at UC Irvine.
Rachel Han	Now at Google.
Pranay Jain	Now a PhD student at Duke.

(continues on next page...)

---

*This cosupervision arrangement was symmetric: both faculty members acted as principal supervisors.

Selected Awards and Outcomes for Undergraduate Students   (continued)

Student Name	Outcome/Award(s)
Samantha Leung	Now at Google. Held an NSERC PGSD3 (2011–2014) at Cornell. NSERC USRA twice (2008, 2009).
Alan Milligan	NSERC USRA (2021)
Hala Murad	Work Learn Summer Research Award (2024).
Lena Podina	Now a PhD student at Waterloo. NSERC USRA (2020).
Shashank Rai	Now at Microsoft India. MITACS GlobalLink (2014).
Arman Raina	Now at Microsoft.
Tuan Truong	Work Learn International Undergraduate Research Award (2022).
Alim Virani	Now a PhD student at UBC. NSERC USRA (2014).
Peter West	Now a PhD student at Washington.
Kevin Yap	Now at Google.

Students CoSupervised during my PhD

As is common at some US universities, while still a PhD student myself I cosupervised students in my advisor's research group. These cosupervision arrangements were informal in the sense that they did not involve official recognition by the department. My responsibilities typically included meeting alone with the student at least once weekly, setting research directions and priorities (with varying degrees of input from Yoav depending on the project and the student), attending some of the student's meetings with Yoav, and writing the student letters of reference. I also co-authored papers with all of these students. The dates I give below are those during which I had an active cosupervisory relationship with the student. Both of the PhD students continued their studies—and went on to cosupervise other students—after my cosupervisory involvement with them ended. (Since Stanford admits PhD students directly from a BSc. degree, they were what Canadian universities would consider MSc. students during at least part of my involvement with them.)

Student Name	Program	Year Start	Finish	Principal Supervisor	CoSupervisor
Eugene Nudelman	Ph.D	2001	2003	Yoav Shoham	Kevin Leyton-Brown
Jenn Wortman	M.Sc.	2003	2003	Yoav Shoham	Kevin Leyton-Brown
Alex Devkar	B.Sc.	2003	2003	Yoav Shoham	Kevin Leyton-Brown
Jim McFadden	M.Sc.	2002	2003	Yoav Shoham	Kevin Leyton-Brown
Galen Andrew	M.Sc.	2001	2003	Yoav Shoham	Kevin Leyton-Brown
Ryan Porter	Ph.D	2000	2001	Yoav Shoham	Kevin Leyton-Brown
Shobha Venkataraman	B.Sc.	2000	2001	Yoav Shoham	Kevin Leyton-Brown
Mark Pearson	B.Sc.	1999	2000	Yoav Shoham	Kevin Leyton-Brown

(d)   Continuing Education Activities

2019 Tutorial Speaker, 36th International Conference on Machine Learning (ICML), Long Beach, CA. A half-day tutorial: *Algorithm Configuration: Learning in the Space of Algorithm Designs*, with Frank Hutter.

2016 Tutorial Speaker, Algorithms and Uncertainty Boot Camp, Simons Institute for Theoretical Computer Science, Berkeley, CA. A 2-hour tutorial: *Understanding the Empirical Hardness of NP-Complete Problems.*

2013 Tutorial Speaker, 23rd International Joint Conference on Artificial Intelligence (IJCAI), Beijing.* A 3-hour tutorial: *Programming by Optimization*, with Holger Hoos and Frank Hutter.

---

*Competitively selected.

Tutorial Speaker, IFAAMAS Summer School at the Institute of Computing Technology, Chinese Academy of Sciences, Beijing.* A 3-hour tutorial: *Mechanism Design and Auctions.*

Tutorial Speaker, Nanyang Techological University, Winter School on Algorithmic Game Theory, Singapore.* A 3-hour tutorial on empirical problems in algorithmic game theory.

2012 Tutorial Speaker, Sapienza University of Rome, Italy.* Three 2.5-hour tutorials on advanced topics in multiagent systems: *Beyond Equilibrium*, *Action-Graph Games*, and *Computational Mechanism Design.*

2010 Tutorial Speaker, First Makerere Workshop on Social Systems and Computation, Kampala, Uganda.* Two three-hour tutorials: *Introduction to Game Theory*, and *Introduction to Mechanism Design and Auctions.* **Tutorial Speaker**, 9th International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2010), Toronto.*† Tutorial title: *Equilibrium Computation: Theory and Practice*, with Costis Daskalakis.

2009 Tutorial Speaker, 10th ACM Conference on Electronic Commerce (EC'09), Stanford.† Tutorial title: *Equilibrium Computation: Theory and Practice*, with Costis Daskalakis.

2001 Tutorial Speaker, Auction Theory Workshop, Cornell University Computer Science Department.* Tutorial title: *Auctions, Auction Theory, and Hard Computational Problems in Auctions.*

(e) *Visiting Lecturer (indicate university/organization and dates)*

9.   SCHOLARLY AND PROFESSIONAL ACTIVITIES

(a) *Areas of special interest and accomplishments*

Game theory studies what happens when strategic interests collide. The internet facilitates a wide range of interactions that are larger and more complex than traditional analysis can handle. My research extends such analysis to internet scale. It focuses on computational tools, auctions, and fast algorithms for solving hard problems.

Computational Game Theory. *Goal:* computational techniques to replace pen-and-paper methods for analyzing strategic behavior. *Key contributions:* the first representation language for describing large, general settings in which all players interact; algorithms for efficiently answering game theoretic questions; novel methods for predicting human behavior in strategic situations. *Impact:* 7 software packages; 30 papers; 586 citations.‡

Market Design, Analysis, and Clearing. *Goal:* designing novel auctions (and other markets), and analyzing properties of existing economic protocols. *Key contributions:* theoretical analyses; novel computational methods to enable quantitative studies; mechanisms for peer grading. Clearing means identifying the winners of a complex, multi-good auction; this is often a hard computational problem. My clearing algorithms have had wide impact in electronic commerce companies and government; the most recent one is the top contender for use in the US FCC's upcoming, $50 billion "incentive auction" of radio spectrum. *Impact:* 5 software packages; 35 papers; 1,968 citations.

Machine Learning for Optimization. *Goal:* general techniques for designing algorithms that are fast in practice on provably hard optimization problems. *Key contributions:* the first use of machine learning methods to characterize algorithm performance; the world's fastest satisfiability solvers, using

---

*Expenses paid.

†Competitively selected.

‡Paper counts consider only peer-reviewed papers, and include journal papers up to J11, archival conference papers up to C61, other papers up to O35, and software packages up to S18; each paper is assigned to either zero or one of the three categories used here. Citation counts are from Google Scholar. Per-topic counts were accessed February 2, 2022. Total citations: 26,000; *h*-index 61; i10-index 132, accessed April 17, 2024.

statistical models to build "algorithm portfolios"; methods for casting algorithm design as "noisy black-box function optimization" and solving with computers. *Impact:* 7 software packages; 37 papers; 2,308 citations.

(b)   Research or Equivalent Grants

Since taking up my position at UBC in 2004, I have been (co/)awarded $10,804,249 in research funding: $5,090,766 in research grants, $3,792,300 in compute cluster time, and $1,921,183 in research contracts. All funding was obtained competitively unless otherwise indicated.

Agency, Program	Title	$ Total	Year(s)	PI *(Co-PIs in italics)*
UBC Advanced Research Computing; Microsoft	Azure Pilot 2023	$10,000	2023	K. Leyton-Brown
NSERC Discovery	Learning Models of Strategic Behaviour	$295,000	2023–27	K. Leyton-Brown
NSERC CREATE	Advanced Machine Learning Training Network (AML-TN)	$1,650,000	2023–29	F. Wood, *B. Bloem-Reddy, A. Bouchard-Côté, T. Campbell, K. Leyton-Brown, D. Poole, M. Schmidt, L. Sigal, D. Sutherland, M. van de Panne, K.M. Yi*
Digital Research Alliance of Canada	Learning Expensive-to-Evaluate Policies	$879,818*	2022–24	K. Leyton-Brown; *F. Wood*
UBC Advanced Research Computing; Amazon Web Services	RONIN Cluster for Economics & Computation†	$223,974	2021–23	K. Leyton-Brown
University of British Columbia	Distinguished University Scholar Research Award	$20,000	2021	K. Leyton-Brown
NSERC Research Tools and Instruments	UBC Machine Learning Computational Cluster	$150,000	2021	F. Wood; *K. Leyton-Brown; M. Schmidt; L. Sigal; T. Campbell*
Amazon Research	Automated Machine Learning for Tabular Datasets using Hyperband Embedded Reinforcement Learning	$197,667‡	2021	K. Leyton-Brown; *F. Wood*
CIFAR	Canada CIFAR AI Chair, Amii	$400,000	2019–23	K. Leyton-Brown

(continues on next page...)

---

*The Digital Research Alliance of Canada's officially stated value for our allotted core-/GPU-years of compute time.

†Not selected through a competitive process.

‡$57,000 USD in funding and an additional $100,000 USD in Amazon Web Services Promotional Credits. I shared the cash funding 50–50 with my co-PI and used all of the AWS credits.

(b)   Research or Equivalent Grants   (continued)

Agency, Program	Title	$ Total	Year(s)	PI *(Co-PIs in italics)*
Compute Canada	General-Purpose Automation of Machine Learning	$1,321,369*	2019–21	K. Leyton-Brown; *F. Wood*
NVIDIA Corporation	GPU Grant	$1,512[†]	2018	K. Leyton-Brown
Facebook Research	Unrestricted Research Gift	$31,940	2018	K. Leyton-Brown
DND/NSERC Discovery Grant Supplement	Data-Driven Mechanism Design	$120,000	2018–20	K. Leyton-Brown
NSERC Discovery	Data-Driven Mechanism Design	$426,000	2017–22	K. Leyton-Brown
CFI Infrastructure Operating Fund	Computing Infrastructure for Automated Design, Optimisation and Customisation of Performance-Critical Software[‡]	$232,500	2018–23	K. Leyton-Brown
CFI Leaders Fund	Computing Infrastructure for Automated Design, Optimisation and Customisation of Performance-Critical Software[‡§]	$322,321	2017	K. Leyton-Brown *(formerly, H. Hoos)*
NSERC Collaborative Research and Development	Predictive Models of Human Behavior in Strategic Settings	$35,000	2015	K. Leyton-Brown
NSERC E.W.R. Steacie Memorial Fellowship	Computational Bottlenecks in Electronic Markets	$250,000	2015–16	K. Leyton-Brown
NSERC Discovery	Computational Game-Theoretic Analysis: Methods and Applications	$210,000	2012–16	K. Leyton-Brown
Compute Canada	Programming by Optimization: Automated Configuration and Selection of Algorithms for Challenging Computational Problems	$1,091,176*	2013–18	H. Hoos; *K. Leyton-Brown*
Auctionomics, Inc.	Feasibility Testing for Spectrum Reallocation[‡]	$134,938	2014	K. Leyton-Brown
Google Faculty Research Award	Predictive Models of Human Behavior in Strategic Settings	$35,000	2013	K. Leyton-Brown
Auctionomics, Inc.	Feasibility Testing for Spectrum Reallocation[‡]	$35,448	2013	K. Leyton-Brown
Compute Canada	Automated Configuration of Heuristic Algorithms from Components	$140,060*	2012	H. Hoos; *K. Leyton-Brown*

(continues on next page…)

---

*Compute Canada's officially stated value for our allotted core-/GPU-years of compute time.

[†]NVIDIA's stated "donation value" (not commercial price) for one Titan Xp graphics card, translated into CAD.

[‡]Not selected through a competitive process.

[§]This equipment grant was awarded to Holger Hoos; it was transferred to me when he left UBC for another university.

(b)   Research or Equivalent Grants   (continued)

Agency, Program	Title	$ Total	Year(s)	PI *(Co-PIs in italics)*
Peter Wall Institute for Advanced Studies	Early Career Scholar Award	$10,000	2012	K. Leyton-Brown
MITACS Seed Project	Automated Design of Heuristic Algorithms from Components	$58,500	2011–12	H. Hoos; *K. Leyton-Brown*
IBM	Matching Funds: Automated Design of Heuristic Algorithms from Components	$56,000	2011–12	H. Hoos; *K. Leyton-Brown*
Actenum Inc.	Matching Funds: Automated Design of Heuristic Algorithms from Components	$24,000	2011–12	H. Hoos; *K. Leyton-Brown*
Google Faculty Research Award	Advanced Computational Analysis of Position Auction Games	$35,000	2010	K. Leyton-Brown
MITACS Seed Project	Automated Design of Heuristic Algorithms from Components	$108,400	2009–10	H. Hoos; *K. Leyton-Brown*
Actenum Inc.	Matching Funds: Automated Design of Heuristic Algorithms from Components	$37,000	2009–10	H. Hoos; *K. Leyton-Brown*
Microsoft	Equilibrium computation and semi-automated mechanism design for adCenter auctions	$42,724	2008	K. Leyton-Brown
ICICS	Matching funds for Microsoft grant	$10,000	2008	K. Leyton-Brown
NSERC Discovery	Competitive Multiagent Systems: Bridging the Gap Between Theory and Practice	$120,000	2007–11	K. Leyton-Brown
CFI IOF	Computer Cluster for Experimental Study of Hard Combinatorial Problems	$22,725	2006–10	K. Leyton-Brown
CFI New Opportunities	Computer Cluster for Experimental Study of Hard Combinatorial Problems	$75,747	2005	K. Leyton-Brown
BCKDF	Computer Cluster for Experimental Study of Hard Combinatorial Problems	$75,747	2005	K. Leyton-Brown
NSERC Discovery	Computational and Game Theoretic Issues in Competitive Multiagent Systems	$64,500	2004–06	K. Leyton-Brown

(c)   Research or Equivalent Contracts

All contracts were obtained competitively unless otherwise indicated.

Agency, Program	Title	$ Total	Year(s)	PI (Co-PIs in italics)
Defense Advanced Research Projects Agency (DARPA)	Hasty: A Generative Model Compiler*	$1,424,124	2020–21	F. Wood, *K. Leyton-Brown*
Huawei Research Canada	Machine Learning for Automated Algorithm Design and Analysis for Data Center Resource Management	$72,030	2018	K. Leyton-Brown
CANARIE Intelligent Infrastructure	Federation Grid†	$425,029	2006–08	Son Vuong; *B. Krasic, K. Leyton-Brown, E. Wohlstadter*

(d)   Invited Presentations

Invited tutorials are instead listed in Section 8(d).

Keynote Speeches at Conferences; Distinguished Lecture Series

2024 **Keynote Speaker**, AAAI Workshop on Cooperative Multi-Agent Systems Decision-making and Learning, Vancouver, February.
Keynote Speaker, AAAI Workshop on Public Sector LLMs: Algorithmic and Sociotechnical Design, Vancouver, February.

2023 **Keynote Speaker**, Frankfurt School Artificial Intelligence and Business Analytics Workshop, Frankfurt, Germany, July.‡

2022 **Keynote Speaker**, IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology (WI-IAT'22), November.

Keynote Speaker, AAAI-22 Workshop on Machine Learning for Operations Research (ML4OR), February.

2020 **Keynote Speaker**, Data Science Nigeria AI Bootcamp 2020, October.
Keynote Speaker, Special Track on AI for Social Impact at the Thirty-Fourth AAAI Conference on Artificial Intelligence, New York, February.‡

2019 **Keynote Speaker**, Tenth IEEE Information Technology, Electronics and Mobile Communication Conference (IEEE IEMCON), Vancouver, October.‡
Keynote Speaker, joint session between the Fifteenth ACM/SIGEVO Workshop on Foundations of Genetic Algorithms (FOGA XV) and the Seventh COnfiguration and SElection of ALgorithms Workshop (COSEAL), Pottsdam, August.‡
Keynote Speaker, Third INFORMS Workshop on Market Design (in conjunction with the ACM EC 2019 conference), Phoenix, June.
Keynote Speaker, Fifth Marketplace Innovation Workshop, Stanford, June.‡
Distinguished Speaker Series, National University of Singapore, Singapore, January.‡

2018 **Keynote Speaker**, Annual Symposium of the Israeli Association for Artificial Intelligence (IAAI), Rishon Le'Zion, Israel, May.

---

*My portion of the contract was $203,486.

†This project was a subcontract with MacDonald Dettwiler & Associates Ltd., under CANARIE's Intelligent Infrastructure Program. My portion of the 2006 grant was $90,187. The project continued in 2008; my portion of that installment was $31,588.

‡Expenses paid.

2017 **Keynote Speaker**, Future Technologies Conference, Vancouver, November.*
Distinguished Lecture Series, University of Zurich, November.*
Distinguished Lecture Series, Washington University St. Louis, October.*
Keynote Speaker, Third Workshop on Algorithmic Game Theory, International Joint Conference on Artificial Intelligence (IJCAI), Melbourne, Australia, July.

2016 **Keynote Speaker**, 12th Conference on Web and Internet Economics (WINE), December.*
AI Distinguished Speaker Series, Stanford University, September.*
Keynote Speaker, CS-Can/Info-Can Official Launch, September.*
Keynote Speaker, The ONE National Conference, CPA Canada, September.*
Plenary Speaker, International Conference on Crowd Science and Engineering (ICCSE), July.*
Plenary Speaker, 25th International Joint Conference on Artificial Intelligence (IJCAI), July.*
Distinguished Lecture Series, Microsoft Research New England, June.
Distinguished Lecture Series, University of Waterloo, March.*

2015 **Keynote Speaker**, Southern California Symposium on Network Economics and Game Theory. Jointly organized by USC, Caltech, and UCLA; October.*

Plenary Speaker, 26th International Conference on Game Theory in Stony Brook, NY. July. This conference had six parallel tracks for contributed talks and one track for invited plenary speakers.*

2014 **Keynote Speaker**, 13th Pacific Rim International Conference on Artificial Intelligence (PRICAI), Gold Coast, Australia. December.*

Keynote Speaker, 15th ACM Conference on Economics and Computation, Stanford, CA. June.*

2012 **Keynote Speaker**, 2nd Symposium on Game Theory and Human Behavior, University of Southern California, Los Angeles.*

2008 **Keynote Speaker**, 3rd MultiAgent Resource Allocation (MARA) Symposium, Amsterdam.*

2006 **Keynote Speaker**, 16th Annual Canadian Conference on Intelligent Systems (IS2006), Victoria.*

Panel Participant

2024 **Panel Moderator**, AAAI Conference on Artificial Intelligence, February. Plenary Panel on Implications of Large Language Models. Panelists were Subbarao Kambhampati (Arizona State), Chris Manning (Stanford), Sheila McIlraith (Toronto), Charles Sutton (Google DeepMind).

2023 **Panelist**, Rutgers University workshop on game theory and large language models, October. **Panelist**, Princeton University DeCenter Spring Conference, April. *NFT and Digital Assets*, with Matt Weinberg (Princeton; Moderator); Charlie Durbin (Decent), Laura Rodriguez (The Miami Ape).

Panelist, SFU–UBC AI Research Day, November. With Martin Ester, Angel Chang, Leonid Sigal; moderator Ke Li.

2022 **Panelist**, ACM-EC Mentoring Workshop, July. *Panel on Failure*, with Ariel Procaccia (Harvard), Irene Yuan Lo (Stanford), Severine Toussaert (Oxford).

Panel Moderator, ACM 75th Anniversary Celebration, June. A panel titled *Incentives and Markets*. The panelists were Susan Athey (Stanford University), Vincent Conitzer (Duke University and University of Oxford), Nicole Immorlica (Microsoft Research), Sendhil Mullainathan (Chicago Booth), Hal Varian (Google).

2021 **Panel Moderator**, NeurIPS Workshop on Learning in Presence of Strategic Behavior, December. The panelists were Susan Athey (Stanford) and Michael Jordan (Berkeley).

Panelist, NeurIPS Workshop on Machine Learning for Combinatorial Optimization (ML4CO), December. Moderated by Andrea Lodi (Polytechnique Montreal). The other panelists were Timo Berthold (Zuse Institute Berlin), Frank Hutter (Freiburg), Vinod Nair (Yahoo Labs Bangalore).

Panel Moderator, UBC CAIDA Open House, Vancouver, May. A panel titled *Beyond the Ivory Tower: Deeping Our External Connections*. With Jeff Clune, Cristina Conati, Karon MacLean, Robert Rohling.

Panel Member, Symposium on Artificial Intelligence for Social Good, Carnegie Mellon University, April. With Rayid Ghani (CMU), Emma Pierson (Cornell), Milind Tambe (Harvard), Phebe Vayanos (USC). The panel's topic was *Doing Research in AI for Social Good*.

---

*Expenses paid.

2020 **Panel Member**, Academy of Management Annual Meeting, Virtual Conference, August. With Thomas Donaldson (UPenn), Vern Glaser (Alberta), Kirsten Martin (Notre Dame), Maximilian Schormair (Moderator; Trinity College Dublin). The panel's topic was *Debating Corporate Responsibility in the Era of Digitization and Digitalization.*

Debate Moderator, AAAI Conference on Artificial Intelligence (AAAI), New York, USA, February. An Oxford-style debate of the proposition *Academic AI researchers should focus their attention on research problems that are not of immediate interest to industry.* With Carla Gomes (Cornell), Subbarao Kambhampati (Arizona State), Eric Horvitz (MSR), Tuomas Sandholm (CMU).

Panel Moderator, UBC Robson Square, Vancouver, November. The panel discussed the topic *Artificial Intelligence: The Next Decade.* With Suzanne Gildert (Sanctuary AI), Gary Marcus (robust.ai), Greg Mori (Borealis AI; SFU), Frank Wood (UBC).

2019 **Debate Moderator**, AAAI Conference on Artificial Intelligence (AAAI), Honolulu, USA, January. An Oxford-style debate of the proposition *The AI community today should continue to focus mostly on ML methods.* With Oren Etzioni (Allen Institute for AI), Michael Littman (Brown), Jennifer Neville (Purdue), Peter Stone (UT Austin).

2018 **Panel Moderator**, Microsoft Research New England 10th Anniversary Symposium, Cambridge, October. With panelists Anima Anandkumar (Caltech), Victor Chernozhukov (MIT), Nicolo Fusi (MSR), Lester Mackey (Stanford). The panel discussed the topic *Frontiers of Machine Learning.*

Panel Member, Mentoring Workshop at ACM Conference on Economics and Computation, Cornell, June. With Ruta Mehta (chair; UIUC), Itai Ashlagi (Stanford), Michal Feldman (Tel Aviv), Jon Kleinberg (Cornell). The panel discussed the topic *Hot Topics in Algorithmic Game Theory.*

Panel Member, Liu Institute for Global Issues, UBC, April. With Taylor Owen (chair), Alan Mackworth, Muhammed Abdul Mageed, Chris Mole. The panel discussed the topic *Governing AI*; all members were from UBC.

Debate Moderator, AAAI Conference on Artificial Intelligence (AAAI), New Orleans, USA, January. An Oxford-style debate of the proposition *Advances in Machine Learning have displaced the need for logic in AI*. For: Tom Dietterich (Oregon State), Bart Selman (Cornell); Against: Gary Marcus (NYU), Francesca Rossi (IBM).

2017 **Panel Member**, International Joint Conference on Artificial Intelligence (IJCAI), Melbourne, Australia, August. With Maria Gini (chair; Minnesota), Noa Agmon (Bar-Ilan), Sven König (USC), Fausto Giunchiglia (Trento). The panel made predictions about future directions of AI in 2027.

Panel Member, AI Lounge at International Joint Conference on Artificial Intelligence (IJCAI), Melbourne, Australia, August. With Stefan Hajkowicz (CSIRO) and Toby Walsh (NICTA). The topic was *The End of Work?*

Panel Member, Workshop on Mechanism Design for Social Good at ACM Conference on Economics and Computation (ACM EC'17), Cambridge MA, June. With Ashish Goel (Stanford), Carla Gomes (Cornell), Parag Pathak (MIT), Glen Weyl (MSR).

Panel Organizer and Co-Moderator, ACM Conference on Economics and Computation (ACM EC'17), Cambridge MA, June. With Ruta Mehta (UIUC), Matt Weinberg (Princeton). The panel focused on career advice for graduate students, and included about a dozen participants.

Panel Moderator, AAAI Conference on Artificial Intelligence, San Francisco, February. With Michael Bowling (Alberta) and Tuomas Sandholm (CMU). The panel focused on recent breakthroughs in computer poker.

2015 **Panel Member**, Simons Institute Workshop on Complexity and Simplicity in Economics, Berkeley, October. With Costis Daskalakis (MIT), Noam Nisan (Hebrew University), Christos Papadimitriou (Berkeley), Ilya Segal (Stanford), Eva Tardos (Cornell). The panel focused on future directions for Algorithmic Game Theory; my own focus was "AGT and Practice."

2014 **Panel Member**, Spotlight Session at the Special Library Association (SLA) Annual Conference & INFO-EXPO, Vancouver Convention Center, June. With Michael Stephens (San Jose State) and Rosie Redfield (UBC). Session title: "It's a Brave MOOC World: Challenges and Opportunities for Librarians."

2013 **Panel Member**, University-Based Institutes for Advanced Study (UBIAS) Biannual Conference, University of British Columbia, September. With Don Krug (UBC), Petra Dierkes-Thrun (Stanford), John Steeves (UBC); panel title: "What do you mean I have to pay for this MOOC? Disruptive Innovation and Flexible Learning in Higher Education."

2011 **Panel Member**, Workshop on Innovations in Algorithmic Game Theory, Hebrew University, Israel, May. With Sergiu Hart (Hebrew University), Silvio Micali (MIT), Eva Tardos (Cornell), Vijay Vazirani (Georgia Tech); panel title: "Future Directions in Algorithmic Game Theory."

2008 **Panel Moderator**, 21st Canadian Artificial Intelligence Conference (AI-08), May. This involved selecting, inviting and coordinating panelists, writing questions, and moderating a panel discussion.

Other Invited Talks

2024 University of California, Irvine, Algorithms, Combinatorics and Optimization Seminar, May.*

Google Research India, Tech Talk, March.

India Institute of Science, Bangalore, Kotak IISc AI-ML Talk, March.

Schloss Dagstuhl, Seminar 24052 on Old and New Problems in Peer Review, Germany, January.

2023 Simons Laufer Mathematical Sciences Institute (SLMath), Mathematics and Computer Science of Market and Mechanism Design, Berkeley, September.*

1Qbit, Optimization Seminar, September.

Schloss Dagstuhl, Seminar 23332 on Synergizing Theory and Practice of Automated Algorithm Design for Optimization, Germany, August.

Alberta Machine Intelligence Institute (Amii) Upper Bound Conference, Edmonton, May.

NBER New Directions in Market Design Conference, *AI and Market Design* session, Washington DC, May.*

Huawei Vancouver, April.

Stanford University, Doerr School of Sustainability, Next Generation Water Markets Workshop, March.*

2022 Schloss Dagstuhl, Seminar 22452 on Computational Social Dynamics, Germany, November.

Simon Fraser University & UBC, SFU–UBC Economics Joint Theory Workshop, November.

CIREQ Microeconomic Theory Conference, Montreal, October.*

Northwestern University, Institute for Data, Econometrics, Algorithms, and Learning (IDEAL) Special Quarter on Data Economics, Elicitation Mechanisms in Practice Workshop, October.*

Hebrew University of Jerusalem, "Algorithmic Game Theory: Past, Present, and Future – Workshop in honor of Prof. Noam Nisan's 60th Birthday", June.*

Workshop on Algorithms, Learning, and Economics (WALE), Naxos, Greece, June.

UC Berkeley, Simons Institute "Learning and Games Seminar", April.*

MacKay CEO Forums, Artificial Intelligence Focus Day, Vancouver, April.

2021 UC Berkeley, Simons Institute "Theoretical Foundations of SAT/SMT Solving Workshop", April.

2020 Simon Fraser University, Trustworthy Data Science and AI Webinar Series, October.*

Schwartz Reisman Institute for Technology and Society, University of Toronto, September.*

The Project Management Institute, Canadian West Coast Chapter, July.*

University of Alberta, AI Seminar Series, June.

University of British Columbia, Green College "Special Lecture", January.*

2019 Vancouver Planetarium, Cosmic Nights – AI: The Changing Face of Technology, August.

Toyota Technological Institute at Chicago, Workshop on Automated Algorithm Design, July.

Workshop on Algorithms, Learning, and Economics (WALE), Rhodes, Greece, July.

Canadian Discrete and Algorithmic Mathematics (CANADAM) Conference, Invited session on Algorithmic Game Theory, May.

Carnegie Mellon University, ISR Colloquium, April.*

Carnegie Mellon University, Artificial Intelligence Methods for Social Good, April.*

2018 Cornell Tech, Computer Science Colloquium, December.*

University of British Columbia, CAIDA Technical Seminar, October.

Schloss Dagstuhl, Seminar 18401 on Automating Data Science, Germany, October.

Harvard University, Seminar on AI for Social Good, June.*

Weizmann Institute, Theory Seminar, May.

Tel Aviv University, Machine Learning Seminar, May.

Huawei, 10th Strategy and Technology Workshop, Shenzhen China, May.*

Hebrew University of Jerusalem, Computation and Economics Seminary, May.

Tel Aviv University, Algorithms Seminar, April.

Technion Israel Institute of Technology, Industrial Engineering and Management Faculty Seminar, April.*

Simon Fraser University, Vancouver AI Workshop, March.

---

*Expenses paid.

Harvard Business School, "Making Markets", February.*
New York University, CS Department Colloquium, January.
Microsoft Research New York City, Thursday Seminar, January.*
Uber, Marketplace Optimization Data Science (MODS) Symposium, January.*

2017 UC Berkeley, Simons Institute "Algorithms and Uncertainty Reunion Workshop", December.*
Mechanism Design for Social Good Research Group, "Special Talk", November. This is a multi-institution, interdisciplinary group that meets by video conference; see http://www.md4sg.com/researchgroup.
Oxford University, Machine Learning Seminar, November*.
DeepMind London, Tech Talk, November.*
Computational Sustainability Virtual Seminar Series, Hosted by Cornell University, October.
Yale University, Department of Economics, September.*
Greek Economic and Algorithmic Theory Week, Ikaria, Greece, July.
Microsoft Research New York, Thursday Seminar, June.*
Leiden University, Netherlands, Artificial Intelligence Seminar, March.
Makerere University, Uganda, Artificial Intelligence and Data Science Seminar, March.

2016 UC Berkeley, Simons Institute Workshop on Learning, Algorithm Design and Beyond Worst-Case Analysis, November.*
Cornell University, Computer Science Colloquium, November.*
Schloss Dagstuhl, Seminar 16412 on Automated Algorithm Selection and Configuration, Germany, October.
National Press Club, Washington DC; Technology Policy Institute event on *Artificial Intelligence: The Economic and Policy Implications*; September.*
University of British Columbia, Department of Economics, Summer Theory Conference, August.
Stony Brook University, Center for Game Theory, Workshop on Complex Auctions and Practice, July.*
California Institute of Technology, Linde Institute/Social Information Sciences Laboratory seminar series, April.*
Boston University, Questrom School of Business Seminar Series, March.
Harvard University, EconCS Seminar, March.
Information Theory and Applications Workshop, UC San Diego, Algorithmic Game Theory session, February.

2015 UC Berkeley, Simons Institute Fine Grained Complexity & Algorithm Design Seminar, December.*
Uber, Data science seminar, San Francisco, CA, December.
Cottrell Salon, Stanford, CA, December.
Google DeepMind, London UK, November.*
UC Berkeley, Simons Institute Workshop on Algorithmic Game Theory and Practice, November.*
UC Berkeley, Simons Institute EconCS Survey Seminar, October.*
ACM EC Workshop on Algorithmic Game Theory and Data Science, Portland, June.
Carnegie Mellon University, Artificial Intelligence Seminar, April.*
AAAI Workshop on Algorithm Configuration, Austin, January.

2014 National Information and Communications Technology Australia (NICTA) Optimization Research Group, in Sydney, and with video links to (I think) Monash, Griffith and Queensland; December.
INFORMS Annual Meeting, Invited Session on Incentive Auctions, San Francisco, November.
INFORMS Annual Meeting, Invited Session on Meta-Algorithms, San Francisco, November.
Greek Economic and Algorithmic Theory Week, Paros, July.
Booth School of Business, University of Chicago, Midway Workshop on Market Design, July.*
Special Library Association (SLA) Annual Conference & INFO-EXPO, Vancouver, June.
Bellairs Research Institute, Barbados, Workshop on Algorithmic Game Theory, April.
AAAI Spring Symposium on Applied Computational Game Theory, Stanford University, March.
Federal Communications Commission, Washington DC, FCC LEARN Program, February.*

2013 University-Based Institutes for Advanced Study (UBIAS) Conference, UBC, September.
Cornell University, Artificial Intelligence Seminar, September.*
Schloss Dagstuhl, Seminar 13161 on Interface of Computation, Game Theory, and Economics, Germany, April.
Stanford Institute for Economic Policy Research, Conference on the design of the U.S. Incentive Auction for reallocating spectrum between wireless telecommunications and television broadcasting, February.*

---

*Expenses paid.

Tel Aviv University, Workshop on Modeling Intractability, February.*
Nanyang Technological University, Singapore Workshop on Algorithmic Game Theory, January.*

2012 University of British Columbia, Sauder School of Business, Operations and Logistics Seminar, September.
Sandia National Laboratories, Computing and Information Science Symposium, August.*
Santa Fe Institute, Theme Week on Combining Information Theory and Game Theory, August.*
Samos Summer School on Algorithmic Game Theory, Samos, Greece, July.*
Carnegie Mellon University, Intelligence Seminar, April.*
Bellairs Research Institute, Barbados, Workshop on Algorithmic Game Theory, April.
University of Washington, Theory Seminar, February.

2011 Northwestern University, Theory Seminar, November.*
Duke University, CS–Econ Seminar, November.*
University of Waterloo, Computational Math Colloquium, November.*
University of Toronto, Artificial Intelligence Seminar, November.
York University, Calumet College, October.*
Peter Wall Institute for Advanced Studies, UBC, Early Career Scholars Retreat, September.*
Workshop on Beyond Worst-Case Analysis, Stanford University, California, September.
Google Adwords Seminar, Google, Mountain View, August.
Greek Economic and Algorithmic Theory Week, Paros, July.
Workshop on Innovations in Algorithmic Game Theory, Hebrew University, Israel, June.*
Bar Ilan University, Computer Science Department Seminar, Israel, May.*
Hebrew University, Institute for Advanced Studies, Algorithmic Game Theory Seminar, Israel, April.*
Ben Gurion University, Artificial Intelligence Seminar, Israel, April.
Hebrew University, Center for the Study of Rationality, Sunday Seminar, Israel, March.*
Hebrew University, Computer Science Department, Computer Science Colloquium, Israel, March.*

2010 Makerere University, Machine Learning Seminar, Uganda, October.*
Aarhus University, Inauguration of the Center for Foundations of Electronic Markets, Denmark, October.*
Santa Fe Institute, Workshop on Decentralized Control in Systems of Strategic Actors, New Mexico, August.
UBC Department of Economics, Summer Workshop in Economic Theory, August.
SIAM Conference on Discrete Math, Mini-Symposium on Algorithmic Game Theory, Austin, June.
Schloss Dagstuhl, Seminar 10171 on Equilibrium Computation, Germany, April.
University of Bologna Residential Center, Bertinoro Workshop on Frontiers in Mechanism Design, Italy, March.

2009 Banff International Research Station, Workshop on Search in Constraint Programming, November.*
Simon Fraser University, CS Seminar, November.
INFORMS Annual Meeting, Invited Session on Rich Preference Models in Advertising Auctions, San Diego, October.
Nanyang Technological University, Singapore, First Singapore Workshop on Algorithmic Game Theory, August.*
University of Pennsylvania, Machine Learning Lunch ("MLunch"), May.
Carnegie Mellon University, Intelligence Seminar, February.*

2008 INFORMS Annual Meeting, Invited Session on Auctions and Mechanism Design, Washington D.C., October.
INFORMS Annual Meeting, Sponsored Session on Networks, Game Theory, and Computation, Washington D.C., October.
York University, Calumet College Speakers Series, January.*

2007 Schloss Dagstuhl, Seminar 07271 on Computational Social Systems and the Internet, Germany, July.
Stanford University, Multiagent Seminar, May.
Simon Fraser University, Computer Science Theory Seminar, April.
University of Michigan, STIET (Socio-Technical Infrastructure for Electronic Transactions) Seminar, March.*

2006 INFORMS Annual Meeting, Sponsored Session on Auctions and Computer Science, Pittsburgh, November.
Xerox PARC, Research Seminar, Palo Alto, August.
Science Foo Camp at Google, Mountain View, August.*
MacDonald, Dettwiler and Associates (MDA) Ltd., Research Seminar Series, May.

---

*Expenses paid.

University of Washington, Artificial Intelligence Seminar, April.[*]
University of Victoria, Economics Department Seminar, January.[*]

2005 INFORMS Annual Meeting, Computing Society Sponsored Session on Constraint and Integer Programming, San Francisco, November.
UBC Sauder School of Business, Operations & Logistics Seminar, November.
Schloss Dagstuhl, Seminar 05011 on Computing and Markets, Germany, January.

2004 UBC Economics Department, Micro Theory Seminar, October.
Eighth International Symposium on Artificial Intelligence and Mathematics, Special Session on Game Theory, Fort Lauderdale, January
Eighth International Symposium on Artificial Intelligence and Mathematics, Special Session on Portfolio Design, Fort Lauderdale, January.

2002 DARPA TASK Workshop, Santa Fe, October.[*]
Schloss Dagstuhl, Seminar 02241 on Electronic Market Design, Germany, June.
DARPA TASK Workshop, Chicago, June.[*]

2001 DIMACS Workshop on Computational Issues in Game Theory and Mechanism Design, Rutgers University, November.
Second FCC Combinatorial Bidding Conference, Wye River, Maryland, October.[*]
Infonomics Workshop, Maastricht, Netherlands, July.[*]

2000 Seventeenth International Symposium on Mathematical Programming, Atlanta, August.

(e)   Other Presentations

(f)   Conference Participation

I list conference organization and reviewing roles in Section 11(c), and keynote talks and panel participation in Section 9(d) alongside other invited talks.

10.   SERVICE TO THE UNIVERSITY

(a)   Memberships on committees, including offices held and dates

- **UBC Advanced Research Computing Advisory Committee, September 2023–.**
- **Computer Science Ad Hoc Recruiting Committee (Partner Hire)**, April–May 2023.
- **Chair, Computer Science AI Methods for Scientific Impact (AIM-SI) Hiring Committee**, July 2022–March 2023. This role ended in March because I stepped aside as chair and recused myself from the committee when one of my former PhD students was shortlisted for the position.
- **Chair, Computer Science AI Methods for Scientific Impact (AIM-SI) Hiring Committee**, September 2021–June 2022.
- **Computer Science Merit Review Committee**, May 2021.
- **Computer Science Research and Faculty Affairs Committee**, September 2020–August 2021.
- **Computer Science Ad Hoc Workload Committee**, September 2020–November 2020.
- **Chair, Computer Science AI/ML Faculty Recruiting Committee**, September 2019–May 2020.
- **Computer Science Space Committee**, July 2018–May 2019.
- **UBC Advanced Research Computing Advisory Group**, October 2014–June 2017.
- **UBC Selection Committee for Senior Advisor to the Provosts on Academic Freedom**, January–May 2016.

---

[*]Expenses paid.

- **Green College Academic Committee**, January 2013–August 2015.
- **UBC Policy Development Committee for Learning Materials (Policy 81)**, July 2013–April 2015.
- **Chair, Computer Science Faculty Recruiting Committee, Algorithmic Game Theory Stream**, September 2014–April 2014.
- **Computer Science Faculty Affairs Committee**, September 2011–August 2014.
- **Computer Science Computing Committee**, September 2011–August 2014.
- **Chair, Computer Science Faculty Recruiting Committee**, November 2013–June 2014; Chair February–June 2014.
- **Computer Science Instructor Recruiting Committee**, January–May 2014.
- **Computer Science Faculty Recruiting Planning Committee**, September 2013–May 2014.
- **UBC Coursera Working Group**, October 2013–June 2014.
- **Computer Science Canada Excellence Research Chair Working Group**, 2012.
- **Green College Membership Committee**, January 2012–December 2012.
- **Green College Media and Communications Committee**, January 2010–December 2012.
- **Pacific Institute for Mathematical Sciences (PIMS) UBC steering committee**, April 2004–August 2012.
- **Computer Science Computing Committee**, February 2004–June 2010.
- **Computer Science Graduate Affairs Committee**, February 2004–June 2010.
- **Computer Science Ad Hoc Merit Review Committee**, 2008; 2009.
- **Computer Science Faculty Affairs Committee**, May 2005–November 2006.
- **Chair, Computer Science Computing Subcommittee on Disk Space**, 2006.
- **Computer Science Department Executive Committee**, untenured faculty representative, 2004 (elected position).
- **Computer Science Computing Subcommittee on Research Group Support**, 2004.
- **Computer Science Ad Hoc Committee on the Department becoming a School**, 2004.

(b)   Other service, including dates

- **Director, Research Cluster on Artificial Intelligence Methods for Scientific Impact (AIM-SI)**, since June 2021. The cluster's purpose is to foster growth in core AI methods and to translate this knowledge into interdisciplinary collaborations across the university. In 2022 and 2023 UBC Science has committed to hiring five new assistant professors across the Departments of Computer Science (2 faculty members), Statistics (2 faculty members) and Mathematics (1 faculty member); all will be AI methods experts with strong track records in interdisciplinary research. The cluster also draws on 14 existing UBC faculty members spanning Computer Science, Statistics, Math, and Earth, Ocean and Atmospheric Sciences. My role as Director has included proposing the research cluster to the Faculty of Science in 2020 (unsuccessful) and 2021 (successful); chairing the AIM-SI Steering Committee that oversees the cluster; chairing hiring committees for the CS hires; and managing the cluster's activities.

- **Director, ICICS Center for Artificial Intelligence Decision-making and Action (CAIDA)**, since October 2017. This Center includes 114 faculty members (and counting) spanning four faculties and 31 departments, schools, and institutes and one full-time staff member (Arynn Keane). To date we've received well over half a million in funding from the Institute for Computing, Information and Cognitive Systems (ICICS), Faculty of Science, and Faculty of Applied Science, Microsoft Research, the Pacific Institute for the Mathematical Sciences (PIMS), the Computer Science Department, and the Electrical and Computer Engineering Department. I was co-director alongside Alan Mackworth until July 1, 2018.

- **Organizer and chair, Laboratory for Computational Intelligence (LCI) Forum**, September 2004–July 2010.

11.   SERVICE TO THE COMMUNITY

(a)   Memberships on scholarly societies, including offices held and dates

- **Association for the Advancement of Artificial Intelligence (AAAI)**, member, 2000–.
- **Association for Computing Machinery (ACM), Special Interest Group on Electronic Commerce (SIGecom)**, member, 2000–.
- **Canadian Artificial Intelligence Association (CAIAC), member, 2017–.**
- **Game Theory Society**, member, 2000–.
- **Institute for Operations Research and the Management Sciences (INFORMS)**, member, 2005–.

(b)   Memberships on other societies, including offices held and dates

(c)   Memberships on scholarly committees, including offices held and dates

Conference Organization: Multi-Year Commitments

- **Chair, Conference Committee**, Association for the Advancement of Artificial Intelligence (AAAI), Chair 2022–; member 2021–2022. The conference committee makes decisions that impact the AAAI conference series beyond a single year and offers advice to the conference leadership; it is mainly composed of the chairs of past AAAI conferences.

- **Board of Directors**, INFORMS Section on Auctions and Market Design, 2022–2025. The board consists of 12 members serving four-year terms, with three members rotating on and off the board per year. See `https://connect.informs.org/auctionsandmarketdesign/about-us/officers`.

  Steering Committee, AAAI CPML Bridge for Constraint Programming and Machine Learning. The Constraint Programming and Machine Learning Bridge has been part of the AAAI-23 and AAAI-24 Bridge Programs. The focus of the CPML Bridge is bringing together the traditional AI fields of constraint-based reasoning and machine learning, along with participants from related fields such as SAT, operations research, and data mining.

- **Board of Directors**, International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS), elected position, 2014–2020. The IFAAMAS Board of Directors consists of 27 members, each elected to a six-year term. IFAAMAS is a non-profit organization whose purpose is to promote science and technology in the areas of artificial intelligence, autonomous agents and multiagent systems.

- **Chair**, ACM Special Interest Group on Economics and Computation (ACM SIGecom), elected position, 2015–2019.

- **Steering Committee**, International Conference on Web and Internet Economics (WINE), 2017–2019. The WINE Steering Committee consists of nine members; it appoints conference leadership, determines the locations of upcoming conferences, and considers policy changes that impact the conference beyond the scope of a single year.

- **Publications Committee**, International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS), 2014–2017.

- **Publications Committee**, ACM Special Interest Group on Electronic Commerce (ACM SIGecom), 2014–2015.

Conference Organization: Single-Year Commitments

2024 **Area Chair**, 38th AAAI Conference on Artificial Intelligence (AAAI). I nominated SPC members and oversaw the review process for two dozen papers, leading a discussion and recommending final decisions to the program chairs.

2023 **General Chair**, 24th ACM Conference on Economics and Computation (ACM-EC'23). The conference was held July 9–12 in London; it received about 600 paper submissions and had 487 in-person and 127 virtual registrants. The General Chair role includes budgeting, fundraising, contracts, reimbursements, interfacing with the ACM, web presence, local arrangements, and overseeing the conference timeline.

Mid-Career Award Committee Chair, ACM Special Interest Group on Economics and Computation (SIG-EC). The award recognizes individuals whose contributions have had great impact in the field of economics

and computation, and who received their PhD within the past 18 years. Other committee members were Anna Karlin (UW); Federico Echenique (Caltech).

Nominations Chair, ACM Special Interest Group on Economics and Computation (SIG-EC). As the past SIG Chair, I was responsible for identifying candidates for the election of the SIG's executive, which occurs once every four years. I nominated candidates for three positions: Chair; Vice-Chair; Secretary/Treasurer.

Area Chair, 37th AAAI Conference on Artificial Intelligence (AAAI). I nominated SPC members and oversaw the review process for two dozen papers, leading a discussion and recommending final decisions to the program chairs.

2022 Track Chair, 23rd ACM Conference on Economics and Computation (ACM-EC'22). This role is similar to that of a Program Chair of a small conference. EC consists of four technical tracks. Each is overseen by a Track Chair who oversees all papers in the track and ultimately makes accept/reject recommendations based on input from reviewers and Area Chairs. I was chair of the Artificial Intelligence track and oversaw 57 papers. I also worked with the Program Chairs and other Track Chairs to adjudicate finalist papers for six paper awards.

Area Chair, 36th AAAI Conference on Artificial Intelligence (AAAI). I nominated SPC members and oversaw the review process for 15 papers, leading a discussion and recommending final decisions to the program chairs.

2021 Program Co-Chair, 35th AAAI Conference on Artificial Intelligence (AAAI). This is the most enormous service role I have ever taken. My Program Co-Chair (Mausam, at IIT Delhi) and I began by recruiting two Associate Program Chairs, three Workflow Chairs, about two dozen chairs of specific programs (special tracks, focus areas, tutorials, workshops, doctoral consortium, etc), 245 Area Chairs, 604 Senior Program Committee members, and 9,101 Program Committee Members. The conference received 9,034 submissions, of which over 7,911 were reviewed; 1,692 papers were accepted, yielding an overall acceptance rate of 21%. Mausam and I had ultimate responsibility for: final accept/reject decisions for all of these papers; adjudicating individual cases involving academic honesty, dual submission, double blind reviewing violations, etc; determining how the conference would run virtually in response to the COVID-19 pandemic; launching a new two-phase reviewing process and a "fast track" reviewing process for high-scoring papers rejected from the NeurIPS and EMNLP conferences; defining a new Associate Program Chair role; selecting and inviting 18 invited plenary speakers; launching a "New Faculty Highlights" program; defining and running special tracks (AI for Social Impact) and focus areas (AI responses to the Covid Pandemic; Neuro-Symbolic AI; AI for Conference Organization and Delivery); adjudicating awards; and scheduling talks. Many, many other people were involved in these activities, notably including the Associate Program Chairs, Yan Liu (USC) and Gabriel Röger (University of Basel), and the General Chair, Qiang Yang (HKUST).

2020 Area Chair, 34th AAAI Conference on Artificial Intelligence (AAAI). I nominated SPC members and oversaw the review process for assigned papers, leading a discussion and recommending final decisions to the program chairs.

2019 Area Chair, 29th International Joint Conference on Artificial Intelligence (IJCAI). I nominated SPC members and oversaw the review process for 59 papers, leading a discussion and recommending final decisions to the program chairs.

Co-Chair, Emerging Topics Track on AI for Social Impact at the 33rd AAAI Conference on Artificial Intelligence (AAAI). With Milind Tambe, I proposed and organized the track, assembled an SPC and PC, and oversaw the adjudication of 273 submissions.

2018 Workshop Chair, 28th International Joint Conference on Artificial Intelligence (IJCAI). I organized the workshop program at IJCAI 2018, in conjunction with co-located conferences ICML and AAMAS. In the end, we accepted and scheduled 66 workshops from 109 submissions, each of which ran over between half a day and three days.

Area Chair, 32nd Conference on Artificial Intelligence (AAAI). I nominated SPC members and oversaw the review process for 43 papers, leading a discussion and recommending final decisions to the program chairs.

2017 Tutorial Co-Chair, 27th International Joint Conference on Artificial Intelligence (IJCAI). With Andreas Krause, I was responsible for soliciting, reviewing and selecting 22 tutorials to run over three days.

2016 Area Chair, 26th International Joint Conference on Artificial Intelligence (IJCAI). I was responsible for the area of multi-agent systems. I nominated a dozen SPC members and oversaw the review process of 39 papers, leading a discussion and recommending final decisions to the program chair.

2015 Advisory and Executive Committees, 24th International Joint Conference on Artificial Intelligence (IJCAI). The Executive Committee decides on the location, Program Chair, and Conference Chair of future IJCAIs; the Advisory Committee is used as a "sounding board" by the Conference Committee on a variety of key issues relating to IJCAI-15.

2014 Tutorial Co-Chair, 28th Conference on Artificial Intelligence (AAAI). With Emma Brunskill, I am responsible for soliciting, reviewing and selecting about a dozen tutorials to run over two days.

2013 Area Chair, 23rd International Joint Conference on Artificial Intelligence (IJCAI). I was responsible for the area of multi-disciplinary approaches in AI. I oversaw about 12 SPC members and made accept/reject recommendations for about 50 papers.

Tutorial Co-Chair, 27th Conference on Artificial Intelligence (AAAI). With Carmel Domshlak, I was responsible for soliciting, reviewing and selecting about a dozen tutorials that ran over two days.

2012 Program Co-Chair, 13th ACM Conference on Electronic Commerce (ACM-EC). With Panos Ipeirotis, I was responsible for the technical program at this top-tier conference, to which 219 technical papers were submitted.

2006 Tutorial Chair, Seventh ACM Conference on Electronic Commerce (ACM-EC'06). This involved (rather actively) soliciting tutorial proposals and deciding which proposals to accept.

Workshop and Competition Organization

2024 Co-organizer, Workshop on Incentives in Academia, at ACM EC 2024, Yale University, USA. With Grant Schoenebeck (Michigan), Nihar Shah (CMU), Yichi Zhang (Michigan).

2021 Advisory Committee Member, Harvard CRCS Workshop on AI for Social Good. With Joseph Halpern (Cornell); Ece Kamar (Microsoft Research).

Co-organizer, Workshop on Theoretical Foundations of SAT/SMT Solving, held as part of the Satisfiability: Theory, Practice, and Beyond program at the Simons Institute for the Theory of Computing, University of California, Berkeley. With Antonina Kolokolova (Memorial University of Newfoundland), Moshe Vardi (Rice University), María Luisa Bonet Carbonell (Universitat Politecnica de Catalunya), Vijay Ganesh (University of Waterloo), Marijn Heule (Carnegie Mellon University).

2020 Co-organizer, Workshop on Global Challenges in Economics and Computation, at ACM EC 2020, Budapest, Hungary. With Eric Sodomka (Facebook), Dina Machuve (Nelson Mandela African Institution of Science and Technology), Olubayo Adekanmbi (MTN Nigeria), Katie P. Bernhard (UNDP Uganda), Katrina Ligett (Hebrew University).

Co-organizer, Second Workshop on Behavioral Economics and Computation, at ACM EC 2020, Budapest, Hungary. With Yiling Chen (Harvard CS); Dan Goldstein (MSR); Shengwu Li (Harvard Econ); Gali Noti (Hebrew University).

2019 Steering Committee, CIFAR AICan 2019. The annual meeting of the Pan-Canadian AI Strategy, Vancouver, December 9, 2019.

Co-organizer, Workshop on Behavioral Economics and Computation, at ACM EC 2019, Phoenix, USA. With Yiling Chen (Harvard CS); Dan Goldstein (MSR); Shengwu Li (Harvard Econ); Gali Noti (Hebrew University).

2016 Co-organizer, Workshop on Algorithmic Game Theory and Data Science, at ACM EC 2016, Maastricht, Netherlands. With Richard Cole (NYU); Brad Larsen (Stanford); Balasubramanian Sivan (Google Research); Vasilis Syrgkanis (Microsoft Research).

Co-organizer, Learning, Algorithm Design and Beyond Worst-Case Analysis Workshop, held as part of the Algorithms and Uncertainty program at the Simons Institute for the Theory of Computing, University of California, Berkeley. With Avrim Blum (Carnegie Mellon University), Nir Ailon (Technion Israel Institute of Technology), Nina Balcan (Carnegie Mellon University), Ravi Kumar (Google), Tim Roughgarden (Stanford).

Co-organizer, Workshop on Complex Auctions and Practice at the Stony Brook Game Theory Center. With Paul Milgrom (Stanford). This three-day workshop involved several dozen participants.

2014 Co-organizer, Configurable SAT Solver Challenge (CSSC). With Frank Hutter (Freiburg), Marius Lindauer (Freiburg), Sam Bayless (UBC), Holger Hoos (UBC).

2013 Co-organizer, Configurable SAT Solver Challenge (CSSC). With Frank Hutter (Freiburg), Adrian Balint (Ulm), Sam Bayless (UBC), Holger Hoos (UBC). CSSC 2013 was a competitive event that assessed the peak performance of solvers for the Boolean satisfiability (SAT) problem that accept parameters. A broad range of SAT solvers expose such parameters to enable automated customization for different instance distributions. Indeed, such customization often yields large improvements over the solver defaults. This competition recognized that the value of a SAT solver therefore often comes from its customizability rather than just its performance in a default configuration.

2012 Organizing Committee Member, AAAI 2012 Spring Symposium on Game Theory for Security, Sustainability and Health. With six others, I helped to organize this symposium.

2010 Co-organizer, First Makerere Workshop on Social Systems and Computation, Kampala, Uganda. With John Quinn (Makerere), I organized a five-day workshop with 52 registrants. I also gave two 3-hour tutorials at the workshop, listed above under "Continuing Education Activities."

Session Organization

2011 Session Organizer and Chair, INFORMS Annual Meeting, Charlotte. I organized and chaired a session titled *Algorithmic Game Theory.* I invited four speakers to this session.

2009 Session Organizer and Chair, INFORMS Annual Meeting, San Diego. I organized and chaired a session titled *Rich Preference Models in Advertising Auctions.* I invited three speakers to this session.

2008 Session Organizer and Chair, INFORMS Annual Meeting, Washington D.C. I organized and chaired a session titled *Extending Auction Theory: Computational Perspectives.* I invited three speakers to this session.

2007 Session Organizer and Chair, INFORMS Annual Meeting, Seattle. I organized and chaired three sessions, titled *Valuation Uncertainty and Revenue Monotonicity, Auctions from a Computational Perspective* and *Complex Dynamic Mechanisms* in the *Auctions* Sponsored Session track. I invited a total of eleven speakers to these sessions.

Senior Program Committees

These positions typically involve recruiting program committee members, managing 25–100 reviews, moderating discussion, and recommending acceptance or rejection for each paper.

2017 AAAI (31st Conference on Artificial Intelligence).

2016 AAAI (30th Conference on Artificial Intelligence).

2015 IJCAI (24th International Joint Conference on Artificial Intelligence).

2014 EC (14th ACM Conference on Economics and Computation).

2013 UAI (29th Conference on Uncertainty in Artificial Intelligence).

2012 UAI (28th Conference on Uncertainty in Artificial Intelligence).
AAMAS (10th International Conference on Autonomous Agents and Multiagent Systems).

2011 IJCAI (22nd International Joint Conference on Artificial Intelligence).
ACM-EC (12th ACM Conference on Electronic Commerce).

2010 AAAI (24th Conference on Artificial Intelligence).

2009 IJCAI (21st International Joint Conference on Artificial Intelligence).
ACM-EC (10th ACM Conference on Electronic Commerce)

2008 UAI (24th Conference on Uncertainty in Artificial Intelligence).
AAAI (23rd National Conference on Artificial Intelligence).

2007 UAI (23rd Conference on Uncertainty in Artificial Intelligence).
IJCAI*(20th International Joint Conference on Artificial Intelligence).

2006 AAMAS (5th International Joint Conference on Autonomous Agents and Multiagent Systems).

2005 IJCAI*(19th International Joint Conference on Artificial Intelligence).

---

*This was called a "program committee" position, but had the same responsibilities as other entries in this list.

Program Committees

This list includes positions in which I shared the review of papers with my students; in such cases I remain involved in the review process and responsible for the quality of the review.

2024 1st Econometric Society Conference on Economics and Artificial Intelligence/Machine Learning.

2021 1st ACM Conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO).

2018 IJCAI-ECAI-2018 Survey track.

2015 AAAI-15 Workshop on Algorithm Configuration. (at the 29th Conference on Artificial Intelligence).
AAMAS Blue Sky Track (14th International Conference on Autonomous Agents and Multiagent Systems).

2012 CROCS (4th Workshop on Constraint Reasoning and Optimization for Computational Sustainability at CP-2012).

2011 AMMA (3rd Conference on Auctions, Market Mechanisms, and their Applications).
AAAI NECTAR track (New Scientific and Technical Advances in Research, at the 25th Conference on Artificial Intelligence). AAAI Computational Sustainability and AI Track (at the 25th Conference on Artificial Intelligence).

2010 CROCS (3rd Workshop on Constraint Reasoning and Optimization for Computational Sustainability at CP-2010).
CROCS (2nd Workshop on Constraint Reasoning and Optimization for Computational Sustainability at CPAIOR-2010).
AAAI NECTAR track (New Scientific and Technical Advances in Research, at the 24th Conference on Artificial Intelligence).

2009 AMMA (1st Conference on Auctions, Market Mechanisms, and their Applications).

2008 TADA (9th Workshop on Trading Agent Design and Analysis).
ISAIM (10th International Symposium on Artificial Intelligence and Mathematics).
ACM-EC (9th ACM Conference on Electronic Commerce).
AAMAS (7th International Joint Conference on Autonomous Agents and Multiagent Systems).

2007 ACM-EC (8th ACM Conference on Electronic Commerce).
AAMAS (6th International Joint Conference on Autonomous Agents and Multiagent Systems).
AAAI (22nd National Conference on Artificial Intelligence).
UAI (22nd Conference on Uncertainty in Artificial Intelligence).

2006 AAAI (21st National Conference on Artificial Intelligence).
TADA/AMEC (7th Joint Workshop on Trading Agent Design and Analysis & Agent Mediated Electronic Commerce).
Workshop on Learning for Search at AAAI.

2005 AAAI (20th National Conference on Artificial Intelligence).
ACM-EC (6th ACM Conference on Electronic Commerce).
UAI (20th Conference on Uncertainty in Artificial Intelligence).
AAMAS (4th International Joint Conference on Autonomous Agents and Multiagent Systems).
CP (11th International Conference on Principles and Practice of Constraint Programming).

2004 AAAI (19th National Conference on Artificial Intelligence).
AAMAS (3rd International Joint Conference on Autonomous Agents and Multiagent Systems).
AMEC (6th Workshop on Agent Mediated Electronic Commerce).

2003 IJCAI* (18th International Joint Conference on Artificial Intelligence).
AAMAS (2nd International Joint Conference on Autonomous Agents and Multiagent Systems).

2002 AAAI (18th National Conference on Artificial Intelligence).

---

*This was called a "reviewer" position, but had the same responsibilities as other entries in this list.

(d)   Memberships on other committees, including offices held and dates

- **Mitacs Research Council Member**, 2018–22. Mitacs is a national Canadian organization committed to providing research and training opportunities to undergraduates, graduate students and post-doctorates. The Mitacs research council is a multidisciplinary 18-member committee of the Mitacs Board that is dedicated to maintaining the research integrity of Mitacs programs. The MRC oversees all research review processes for Mitacs programs and provides the Board and Mitacs staff with advice on strategies, initiatives and issues related to Mitacs research.
- **External Advisory Board**, CompSustNet, 2018–. CompSustNet is a research network sponsored by the National Science Foundation. Thirteen U.S. academic institutions led by Cornell University, along with many national and international collaborators, are exploring new research directions in computational sustainability.
- **Judging Panel Member**, Boeing Launchpad Canada 2020. I served as one of five judges (three representing Boeing and two representing Canada at large) tasked with selecting a winner from a group of 10 Canadian start-up finalists based on video pitches.
- **AI100 Study Panel 2015.** Mary and Eric Horvitz established a "100 Year Study on Artificial Intelligence" (AI100) at Stanford University; see `http://ai100.stanford.edu`. One of the study's main tasks is to convene study panels at five-year intervals. I was one of 17 members of the first study panel, serving 2015–2016.
- **Advisory Board Member**, Journal of Artificial Intelligence Research (JAIR), 2014–present.
- **Artificial Intelligence Journal Committee on Long-Term Endowment Planning, Chair**, 2013–2015. This 5-person committee was created and members elected by the editorial board at its 2013 annual meeting; its purpose is to consider how AIJ should spend its $4M endowment and its annual income.
- **NSERC Discovery Grant Evaluation Group Member**, 2012–2014. I was appointed to a three year term on the National Sciences and Engineering Research Council (NSERC) committee that oversees basic research funding for all Canadian computer scientists. I was responsible for evaluating roughly 50 grant applications per year and helping to make funding decisions at a week-long meeting in Ottawa. I left the committee after two years because my Steacie fellowship prohibited such service roles.
- **Game Theory Society Prize in Game Theory and Computer Science Adjudication Committee Member**, 2013. This 3-person committee was selected by the president of the international game theory society. Its job was to select a paper to receive a large monetary award recognizing impact over the previous decade.

(e)   Editorships (list journal and dates)

- **Associate Editor**, ACM Transactions on Economics and Computation (ACM-TEAC), 2011–present.
- **Associate Editor**, AI Access, 2013–2019. *AI Access* describes itself as "an open-access publisher with a heavyweight scientific board"; see `http://aiaccess.web.cse.unsw.edu.au/wordpress`.
- **Associate Editor**, Artificial Intelligence Journal (AIJ), 2011–2016. (elected position)
- **Associate Editor**, Journal of Artificial Intelligence Research (JAIR), 2008–2014.
- **Special Issue Co-Editor**, ACM Transactions on Economics and Computation (ACM-TEAC): Special Issue on Best Papers from the 2012 ACM Electronic Commerce Conference, 2013–2015 (with Panos Ipeirotis).
- **Special Issue Co-Editor**, Games and Economic Behavior: Special Issue on Best Papers from 2008 and 2009 ACM Electronic Commerce Conferences, 2010–2013 (with Michal Feldman).
- **Editorial Board**, Artificial Intelligence Journal (AIJ), 2009–2011 (elected position).
- **Special Issue Co-Editor**, AI Magazine: Special Issue on Algorithmic Game Theory, Volume 31, Number 4, 2010 (with Edith Elkind).
- **Editorial Board**, Journal of Artificial Intelligence Research (JAIR), 2006–2008.

(f)   Reviewer (journal, agency, etc., including dates)

Journal Reviews   I have reviewed for various journals without serving on an editorial board. These include Proceedings of the National Academy of Sciences, Journal of the ACM, Games and Economic Behavior, Artificial Intelligence Journal, Journal of Artificial Intelligence Research, Management Science, Operations Research, ACM Computing Surveys, Constraints, INFORMS Journal on Computing, SIAM Journal on Computing.

Conference Reviews   I have reviewed for various conferences without serving on a program committee. These include AAAI, ACM-EC, AMEC, ICML, IEEE-Infocom, IJCAI, NeurIPS, SODA, UAI, USENIX-ITS, WINE.

Book Reviews   I have reviewed three books for Cambridge University Press (2018; 2011; 2010).

Grant Reviews   I have reviewed grants for NSERC under the *Strategic Grants* and *Discovery Grants* programs, for the Israel Science Foundation under the *Individual Research Grant program,* for the (Austrian) Christian Doppler Research Association, and for the European Research Council under the *ERC Advanced Grant* program.

(g)   External examiner (indicate university and dates)

2023 Pashootan Vaezipoor, PhD, University of Toronto, Canada, February.

2021 Ellen Vitercik, PhD, Carnegie Mellon University, USA, July.
      I also served as external examiner for her PhD proposal examination in July, 2020.

2017 Joanna Drummond, PhD, University of Toronto, Canada, May.

2013 Sam Ganzfried, PhD proposal, Carnegie Mellon University, USA, September.

2010 Shai Haim, PhD, University of New South Wales, Australia, May.
      Rocio Santillan Rodriguez, PhD, Aarhus University, Denmark, October.

Supervisory Committee and University Examiner (at UBC)

2022 Patrick Huber, PhD, Computer Science, August.

2016 Wei Lu, PhD, Computer Science, March.

2013 Terri Kneeland, PhD, Economics, June.

2012 Ce Huang, PhD, Economics, January.

2010 Jacek Kisynski, PhD, Computer Science, March.

(h)   Technology Transfer and Entrepreneurship (indicate organization and dates)

- **AI21, Inc.**, Consultant, 2018–. An AI lab and product company focused on reimagining reading and writing by making machines thought partners to humans.
- **Auctionomics, Inc.**, Affiliate, 2012–. A Silicon Valley startup that offers high stakes auction consulting and software to industry and government.
- **OneChronos, Inc.**, Advisor, 2016–. A startup building a new equity exchange that aims to optimize how buyers and sellers are matched, resulting in more orders filled and better market liquidity. As of December 2021, I'm one of five members of the newly announced OneChronos Labs, "an independent group of leading academics and industry practitioners focused on the multidisciplinary problem of bringing transformative auction formats to capital markets." Labs is chaired by Nobel Prize winner Paul Milgrom; the other members are Nicole Immorlica (Microsoft Research); Scott Duke Kominers (Harvard); David Pennock (Rutgers).
- **Meta-algorithmic Technologies, Inc.**, Co-Founder, 2014–2019. A UBC spinoff that developed software for solving hard computational properties by applying meta-algorithmic techniques.
- **Kudu.ug**, Cofounder, 2011–2018. An SMS-based market for agricultural commodities in Uganda.
- **Cryptic Labs LLC**, Advisor, 2018–2019. A research lab for blockchain, security, privacy and trust.
- **Qudos, Inc.**, Advisor, 2013–2017. A Vancouver startup working on recommender systems.
- **Zynga, Inc.**, Consultant, 2013–2015. A Silicon Valley company that develops social games.
- **Zite, Inc; formerly Worio, Inc.**, Scientific Advisor, 2007–2011 (acquired by CNN). A UBC spinoff that built a personalized news app that learned what you liked to read using AI. It reached #1 in Apple's App Store, achieving over 100k downloads in its first week! CNN sold the technology to Flipboard; it now serves news recommendations to about 100,000,000 Flipboard users per month.
- **Cariocas Inc.**, Consultant, 2000–2003. A Silicon Valley company that used game theoretic ideas to drive customer loyalty and marketing campaigns.
- **Ariba Inc.**, Consultant, 2000. A Silicon Valley company focused on facilitating business-to-business commerce over the internet.
- **Trading Dynamics Inc.**, Consultant, 1999–2000 (acquired by Ariba). A Silicon Valley startup that developed a software platform for business-to-business auctions.

(i)   Other service to the community

12.   AWARDS AND DISTINCTIONS

(a)   Awards for Teaching (indicate name of award, awarding organizations and date)

2014 UBC Killam Teaching Award. This university-wide award recognizes "sustained teaching excellence, ability to motivate students and stimulate critical thinking, and development of innovative approaches to teaching methodology and curricula." The award comes with a $5,000 prize. In the 2013–14 academic year, four awards were given in the Faculty of Science and 23 across the university; at the time, UBC Vancouver had 4,659 faculty.

2009 UBC Undergraduate Mentorship Award. I received one of four university-wide awards, based on a student nomination and selected by a joint faculty/student committee, and publicly recognized at the university's annual *Celebrate Research Gala*. The award was sponsored by UBC's Undergraduate Research Opportunities (URO) initiative.

2004 UBC CS "Incredible Instructor" Teaching Award (honourable mention). For CPSC 532A, Winter 2004, the year I created this course; awarded by the UBC Department of Computer Science.

(b)   Awards for Scholarship (indicate name of award, awarding organizations and date)

While at UBC:

2023 Fellow of the Royal Society of Canada. "Fellows of the RSC are distinguished Canadians from all branches of learning who have made remarkable contributions in the arts, the humanities and the sciences, as well as in Canadian public life. There are 2,558 active Fellows of the RSC." [as of September, 2023]

  ACM SIG-KDD Research Track Test of Time Award. For the paper *Auto-WEKA: Combined Selection and Hyperparameter Optimization of Classification Algorithms*. C. Thornton, F. Hutter, H. Hoos, K. Leyton-Brown. Nineteenth ACM Conference on Knowledge, Discovery, and Data Mining (KDD), 2013.

2021 Distinguished University Scholar. "The Distinguished University Scholar program recognizes members of UBC Faculty who have distinguished themselves as exceptional scholars. The award is conferred by the President on the recommendation of an adjudication panel every other year." The distinction comes with a one-time $20,000 research award, also listed under grants, and a $20,000 per annum salary stipend that is granted for five years and is renewable once. As of 2021, including me, 79 faculty members have received this designation, and UBC Vancouver had 5,711 faculty total.

  Artificial Intelligence Journal (AIJ) Prominent Paper Award 2021. For *Algorithm Runtime Prediction: Methods & Evaluation*, F. Hutter, L. Xu, H. Hoos, K. Leyton-Brown. Volume 206, Pages 79–111, January 2014. The prominent paper award "recognises outstanding papers published no more than seven years ago in the journal that are exceptional in their significance and impact." The award is conferred annually at the IJCAI conference and includes a $1,000 EUR cash prize. The citation reads: *This paper represents a significant milestone in the field of algorithmic runtime prediction. It provides a unifying technical overview, novel technical contributions involving improvements and extensions of existing methods, and a comprehensive empirical analysis of algorithm run-time prediction across three fundamental problems in AI and Algorithms: propositional satisfiability, travelling salesperson, and mixed integer programming. This paper not only serves as an important and highly cited reference on algorithmic runtime prediction for the fields of AI and Algorithms, but it has also influenced work in High Performance and Distributed Computing as evidenced by a diverse array of citations from those fields.*

  Fellow of the Asia-Pacific Artificial Intelligence Association. At the time of my election, the association had 405 fellows from Pacific Rim countries; see `https://www.aaia-ai.org/fellows`.

  Amazon Research Award. I received a $57,000 USD cash gift and $100,000 in Amazon Web Services Promotional Credits, also listed under grants. The award was given in my name but the proposed research was joint with Frank Wood and I shared the research support with him.

2020 ACM Fellow. The Association for Computing Machinery (ACM) is the main international professional society for computer scientists. It says: "the ACM Fellows program recognizes the top 1% of ACM Members for their outstanding accomplishments in computing and information technology and/or outstanding service to ACM and the larger computing community. Fellows are nominated by their peers, with nominations reviewed by a distinguished selection committee." 95 ACM Fellows were named in 2020 across all areas of computer science.

  Exemplary Paper in the Artificial Intelligence and Computation Track at the ACM Conference on Economics and Computation (ACM-EC). For *Incentive Auction Design Alternatives: A Simulation Study*, with N. Newman, P. Milgrom, I. Segal. In addition to one overall "best paper", one paper was chosen as "exemplary" in each of the conference's four tracks (Theory; Applied Modeling; AI and Computation; Empirics). The conference published 99 of 491 submissions.

2019 Canada CIFAR AI Chair, Amii. From CIFAR: "The goal of the Chairs Program is to recruit and retain in Canada some of the world's leading researchers in AI and provide them with long-term, dedicated research funding to support their research programs and help them train the next generation of AI leaders." This honor was accompanied by $400,000 in funding over five years, also listed under grants.

2018 INFORMS Franz Edelman Award for Achievement in Advanced Analytics, Operations Research, and Management Science, described as "the leading O.R. and analytics award in the industry." The award recognizes a "completed, practical application that had significant, verifiable and quantifiable impact on the performance of [a] client organization," in our case the Federal Communications Commission. The award was accompanied by a $10,000 honorarium. I shared the award with 18 other people: two UBC students (A. Fréchette, N. Newman) and 16 others (S. Charbonneau, J. Costa, A. Coudert, M. Dunford, G. Epstein, K. Hoffman, S. Javid, J.E. Kwerel, D. Menon, C. Meisch, P. Salasznyk, I. Segal, B. Smith, R. Sultana, M. Trick).

Fellow of the Association for the Advancement of Artificial Intelligence (AAAI). This program "recognizes individuals who have made significant, sustained contributions—usually over at least a ten-year period—to the field of artificial intelligence." I was elected "For significant contributions to machine learning for algorithm optimization, and theoretical and practical aspects of computational game theory and market design." In total, eight fellows were elected in 2018.

ACM Distinguished Member. "The Distinguished Members Grade recognizes those ACM members with at least 15 years of professional experience and 5 years of continuous Professional Membership who have achieved significant accomplishments or have made a significant impact on the computing field."

2015 Charles A. McDowell Award for Excellence in Research. From the award description: "Established in 1985, the Charles A. McDowell Award for Excellence in Research, one of UBC's most prestigious research prizes, is [...] made to an outstanding young member of the faculty of UBC who has demonstrated excellence in pure or applied scientific research."

ICON Challenge on Algorithm Selection: first place. For the solver zilla (a domain-independent version of SATzilla), with C. Cameron, A. Fréchette, H. Hoos, F. Hutter. Eight solvers were submitted to the competition.

2014 NSERC E.W.R. Steacie Memorial Fellowship. Up to six of these awards are made annually; all Canadian scientists and engineers within 12 years of PhD graduation are eligible. I was the 11th computer scientist to win this award since its establishment in 1965. Over two years I received $250,000 (also listed under grants) and a further $180,000 towards salary (also listed under funding for teaching relief), which allowed me to be relieved of all teaching and administrative responsibilities for two years.

CACS/AIC Outstanding Young Computer Science Researcher Prize. This award by the Canadian Association for Computer Science/Association informatique canadienne is given to up to three computer science researchers who received their PhD's within the previous 10 years; it recognizes excellence in research, and comes with a $1,000 prize. This is the 2013 award, meaning that it was announced in March 2014 and awarded in May 2014. Two others also received the 2013 award.

2013 Google Faculty Research Award. I received a $35,000 cash award, also listed under grants.

2012 Best Paper with a Student Lead Author (runner up) at the Conference on Autonomous Agents and Multiagent Systems (AAMAS), Valencia, Spain. For *Behavioral Game-Theoretic Models: A Bayesian Framework For Parameter Analysis*, with James Wright. There was one other runner-up; 137 of 671 papers were accepted.

SAT Challenge Solver Competition: 3 first, 3 second, and 1 third place medals. For the SAT solver SATzilla2012, with L. Xu, F. Hutter, J. Shen, and H. Hoos. 60 solvers entered the competition.

2011 Best Paper with a Student Lead Author at the ACM Conference on Electronic Commerce (ACM-EC). For *Polynomial-time Computation of Exact Correlated Equilibrium in Compact Games*, with A. Jiang. One other paper co-won the award; 49 of 189 papers were accepted at the conference.

Early Career Scholar Award from UBC's Peter Wall Institute for Advanced Studies; $10,000 award, also listed under grants. 10 Early Career Scholars were chosen from untenured UBC faculty plus faculty within two years of having been awarded tenure.

Best Paper Award (runner up) at the Learning and Intelligent Optimization (LION) Conference. For *Sequential Model-Based Optimization for General Algorithm Configuration*, with F. Hutter, H. Hoos.

2010 IJCAI-JAIR Best Paper Prize For *SATzilla: Portfolio-based Algorithm Selection for SAT*, with L. Xu, F. Hutter, and H. Hoos. This award recognizes an outstanding paper published in the Journal of Artificial Intelligence Research (JAIR) over the preceding five calendar years, based on both significance and quality of presentation.

Best Paper Award (runner up) at the Learning and Intelligent Optimization (LION) Conference. For *Time-Bounded Sequential Parameter Optimization*, with F. Hutter, H. Hoos, K. Murphy. 19 of 57 papers were accepted.

Google Faculty Research Award. I received a $35,000 cash award, also listed under grants.

2009 SAT Solvers Competition: three first prizes and two second prizes. For the SAT solver SATzilla-09; we won in 5 of the 9 categories. 48 solvers participated. The award was shared with L. Xu, F. Hutter, and H. Hoos.

2007 SAT Solvers Competition: Placed first in three categories, second in one category and third in one category. For the SAT solver SATzilla-07; we placed in 5 of the 9 categories. The award was shared with L. Xu, F. Hutter, and H. Hoos.

2004 SAT Solvers Competition: placed third in two categories. For the SAT solver SATzilla-04; we placed in 2 of the 9 categories. The award was shared with E. Nudelman, A. Devkar, Y. Shoham, and H. Hoos.

While at Stanford (graduate school):

- **2003 SAT Solvers Competition:** placed second in two categories and third in one category. For the SAT solver SATzilla-03; we placed in 3 of the 9 categories. The award was shared with E. Nudelman, G. Andrew, C. Gomes, J. McFadden, B. Selman and Y. Shoham.

- **Stanford Graduate Fellowship**, Lucent Technologies Fellow, 1998–2003. A three year tuition-plus-stipend award given to 100 PhD students from each incoming science+engineering cohort.

- **NSERC PGS-A:** Natural Sciences and Engineering Research Council of Canada fellowship for tenure outside Canada, 1999–2001.

- **NSERC PGS-A:** Natural Sciences and Engineering Research Council of Canada fellowship for tenure in Canada, declined 1998.

While at McMaster (undergraduate):

- **McMaster Scholar**, Dr. H.L. Hooker Scholarship, McMaster University, 1994–1998. Described by McMaster as its "most prestigious entrance scholarship".

- **Canada Scholarship**, Government of Canada, 1994–1998.

- **Dean's Honour List**, McMaster University, 1995, 1996, 1997, 1998.

- **Senate Scholarship**, McMaster University, 1997, 1998.

- **T.R. Wilkins Travel Scholarship**, McMaster University, 1997. Supported two months of summer study at Hebrew University, Israel.

- **Dalley Memorial Scholarship**, McMaster University, 1996–1997.

(c)   Awards for Service (indicate name of award, awarding organizations and date)

(d)   Other Awards

13.   OTHER RELEVANT INFORMATION (Maximum One Page)

THE UNIVERSITY OF BRITISH COLUMBIA
Publication Record

Since becoming a faculty member (Jan 2004), I have followed the convention of listing student authors first and then of listing faculty authors in alphabetical order, except in cases where an author played an unusually large or small role. (In some cases I have worked with collaborators who have their own conventions, and so I have occasionally diverged from this practice.) Regardless of authorship order, I have made a substantial personal contribution to each publication listed here. Authors who were students or postdoctoral fellows supervised or cosupervised by me (see Section 8) during the work described in a paper are marked with the symbol ✩. My own supervisor during my PhD and MSc degrees was Yoav Shoham. My publications have been cited more than 26,000 times and jointly reach an *h*-index of 61 and an i10-index of 132 (Google Scholar, April 17, 2024). The symbols 🔲, 🔲, and 🔲 mark highly cited publications.

1.   REFEREED PUBLICATIONS

(a)   Refereed Journals

The top journals in AI are AIJ and JAIR; the top journal in game theory (mostly economics) is GEB; the top journals in machine learning are MLJ and JMLR; top CS theory journal is JACM; the the top broad-interest magazine in CS is CACM and in AI is AI Magazine; the top journal in Operations Research is Management Science.

J28. *Matching Papers and Reviewers at Large Conferences.* K. Leyton-Brown, Mausam, Y. Nandwani, H. Zarkoob✩, C. Cameron✩, N. Newman✩, D. Raghu. Artificial Intelligence Journal (AIJ), volume 331, pp. 104–119, March 2024.

J27. *Incentive Auction Design Alternatives: A Simulation Study.* N. Newman, K. Leyton-Brown, P. Milgrom, I. Segal. **Management Science**, available online, 2024.

J26. 🔲 *In-Context Retrieval-Augmented Language Models.* O. Ram, Y. Levine, I. Dalmedigos, D. Muhlgay, A. Shashua, K. Leyton-Brown, Y. Shoham. **Transactions of the Association for Computational Linguistics (TACL)**, volume 11, pp. 1316–1331, 2023.

J25. 🔲 *Incentivizing Evaluation with Peer Prediction and Limited Access to Ground Truth.* X. Gao✩, J. Wright✩, K. Leyton-Brown. **Artificial Intelligence Journal (AIJ)**, volume 275, pp. 618–638, October 2019.

J24. 🔲 *Operations Research Enables Auction to Repurpose Television Spectrum for Next-Generation Wireless Technologies.* J. Kiddoo, E. Kwerel, S. Javid, M. Dunford, G. Epstein, C. Meisch, K. Hoffman, B. Smith, A. Coudert, R. Sultana, J. Costa, S. Charbonneau, M. Trick, I. Segal, K. Leyton-Brown, N. Newman✩, A. Fréchette✩, D. Menon, P. Salasznyk. **INFORMS Journal on Applied Analytics (IJAA)**, volume 49, number 1, pp. 7–22, February 2019.

J23. *Level-0 Models for Predicting Human Behavior in Games.* J. Wright☆, K. Leyton-Brown. **Journal of Artificial Intelligence Research (JAIR)**, volume 64, pp. 357–383, February 2019.

J22. *Deep Optimization for Spectrum Repacking.* N. Newman☆, A. Fréchette☆, K. Leyton-Brown. **Communications of the ACM (CACM)**, volume 61, number 1, pp. 97–104 , January 2018.

J21. *Efficient Benchmarking of Algorithm Configuration Procedures via Model-Based Surrogates.* K. Eggensperger, M. Lindauer, H. Hoos, F. Hutter, K. Leyton-Brown. **Machine Learning Journal (MLJ)**, volume 107, issue 1, pp. 15–41, January 2018.

J20. *Predicting Human Behavior in Unrepeated, Simultaneous-Move Games.* J. Wright☆, K. Leyton-Brown. **Games and Economic Behavior (GEB)**, volume 106, pp. 16–37, November 2017.

J19. *Economics and Computer Science of a Radio Spectrum Reallocation.* K. Leyton-Brown, P. Milgrom, I. Segal. **Proceedings of the National Academy of Sciences (PNAS)**, volume 114, number 28, pp. 7202–7209, July 2017.

J18. *Auto-WEKA 2.0: Automatic model and hyperparameter selection in WEKA.* L. Kotthoff☆, C. Thornton☆, F. Hutter, H. Hoos, K. Leyton-Brown. **Journal of Machine Learning Research (JMLR)**, volume 18, number 25, pp. 1–5, 2017.

J17. *Computational Analysis of Perfect-Information Position Auctions.* D. Thompson☆, K. Leyton-Brown. **Games and Economic Behavior (GEB)**, volume 102, pp. 583–623, March 2017.

J16. *Automatic Construction of Parallel Portfolios via Algorithm Configuration.* M. Lindauer, H. Hoos, K. Leyton-Brown, T. Schaub. **Artificial Intelligence Journal (AIJ)**, volume 244, pp. 272–290, March 2017.

J15. *The Configurable SAT Solver Challenge (CSSC).* F. Hutter, M. Lindauer, A. Balint, K. Leyton-Brown. **Artificial Intelligence Journal (AIJ)**, volume 243, pp. 1–25, February 2017.

J14. *ASlib: A Benchmark Library for Algorithm Selection.* B. Bischl, P. Kerschke, L. Kotthoff☆, M. Lindauer, Y. Malitsky, A. Fréchette☆, H. Hoos, F. Hutter, K. Leyton-Brown, K. Tierney, J. Vanschoren. **Artificial Intelligence Journal (AIJ)**, volume 237, pp. 41–58, August 2016.

J13. *SATenstein: Automatically Building Local Search SAT Solvers from Components.* A. KhudaBukhsh☆, L. Xu☆, H. Hoos, K. Leyton-Brown. **Artificial Intelligence Journal (AIJ)**, volume 232, pp. 20–42, March 2016.

J12. *Understanding the Empirical Hardness of NP-Complete Problems.* K. Leyton-Brown, H. Hoos, F. Hutter, L. Xu☆. **Communications of the Association for Computing Machinery (CACM)**, volume 57, issue 5, pp. 98–107, May 2014.

J11. *Algorithm Runtime Prediction: Methods & Evaluation.* F. Hutter☆, H. Hoos, K. Leyton-Brown. **Artificial Intelligence (AIJ)**, volume 206, pp. 79–111, January 2014. Received the *2021 AIJ Prominent Paper Award.*

J10. *Polynomial-time Computation of Exact Correlated Equilibrium in Compact Games.* A. Jiang☆, K. Leyton-Brown. **Games and Economic Behavior (GEB)**, volume 91, May 2015, pp. 347–359. Available online February 12, 2013.

J9. *TRUSTS: Scheduling Randomized Patrols for Fare Inspection in Transit Systems using Game Theory.* Z. Yin, A. Jiang, M. Tambe, C. Kiekintveld, K. Leyton-Brown, T. Sandholm, J.P. Sullivan. **Artificial Intelligence Magazine**, volume 33, number 4, pp. 59–72, Winter 2012.

J8. *Revenue Monotonicity in Deterministic, Dominant-Strategy Combinatorial Auctions.* B. Rastegari[☆], A. Condon, K. Leyton-Brown. **Artificial Intelligence Journal (AIJ)**, volume 175, issue 2, pp. 441–456, February 2011.

J7. *Action-Graph Games.* **A. Jiang**, K. Leyton-Brown, N. Bhat. **Games and Economic Behavior (GEB)**, volume 71, issue 1 (special issue in honour of John Nash), pp. 141–173, January 2011.

J6. *Tradeoffs in the Empirical Evaluation of Competing Algorithm Designs.* F. Hutter[☆], H. Hoos, K. Leyton-Brown. **Annals of Mathematics and Artificial Intelligence (AMAI)**, special issue on Learning and Intelligent Optimization, volume 60, number 1, pp. 65–89, October 2010.

J5. *ParamILS: An Automatic Algorithm Configuration Framework.* F. Hutter[☆], H. Hoos, K. Leyton-Brown & T. Stützle. **Journal of Artificial Intelligence Research (JAIR)**, volume 36, pp. 267–306, October 2009.

J4. *Empirical Hardness Models: Methodology and a Case Study on Combinatorial Auctions.* K. Leyton-Brown, E. Nudelman[☆], Y. Shoham. **Journal of the Association for Computing Machinery (JACM)**, volume 56, number 4, article 22, pp. 1–52, June 2009.

J3. *SATzilla: Portfolio-based Algorithm Selection for SAT.* L. Xu[☆], F. Hutter[☆], H. Hoos, K. Leyton-Brown. **Journal of Artificial Intelligence Research (JAIR)**, volume 32, pp. 565–606, June 2008. Received the ***2010 IJCAI-JAIR Best Paper Prize.***

J2. *Bidding Agents for Online Auctions with Hidden Bids.* A. Jiang[☆], K. Leyton-Brown. **Machine Learning Journal (MLJ)**, volume 67, number 1–2, pp. 117–143, May 2007.

J1. *Incentive Mechanisms for Smoothing Out A Focused Demand for Network Resources.* K. Leyton-Brown, R. Porter[☆], S. Venkataraman[☆], B. Prabhakar, Y. Shoham. **ACM Computer Communications Review (CCR)**, volume 26, issue 3, pp. 237–250, February 2003.

(b) Archival, Rigorously Refereed Conference Proceedings

Full papers at archival conferences constitute the most important form of publication in Computer Science. The rigor of the peer reviewing process, acceptance rates, and overall quality of published papers make the conferences listed in this section comparable to high-quality journals. The top conferences are AAAI and IJCAI for AI; NeurIPS (formerly NIPS), ICML and ICLR for machine learning; ACM-EC for CS work on game theory; AAMAS for multiagent systems; CP and CPAIOR for constraint programming; UAI for probabilistic reasoning; KDD for data mining; FOCS, STOC and SODA for CS theory; SIGCSE and ITiCSE for CS education. I list acceptance rates for conferences in this section, where available, as [AR] *accepted/submitted = rate%*; rates are omitted only when they are unavailable. This list is limited to journal-grade publications; other peer-reviewed papers are instead listed in Section 1(c): *Other: Nonarchival and/or Less Rigorously Refereed Publications.*

C98. *Agora: Motivating and Measuring Engagement in Large-Class Discussions.* H. Zarkoob[☆], S. Nand[☆], K. Leyton-Brown, G. Toti. Twenty-Ninth ACM Conference on **Innovation and Technology in Computer Science Education (ITiCSE)**, 2024. [AR] 108/400=27%

C97. *UNSAT Solver Synthesis via Monte Carlo Forest Search.* C. Cameron[☆], J. Hartford[☆], T. Lundy[☆], T. Truong[☆], A. Milligan[☆], R. Chen[☆], K. Leyton-Brown. Twenty-First International Conference on the Integration of **Constraint Programming, Artificial Intelligence, and Operations Research (CPAIOR)**, 2024.

C96. *Generating Benchmarks for Factuality Evaluation of Language Models.* D. Muhlgay, O. Ram, I. Magar, Y. Levine, N. Ratner, Y. Belinkov, O. Abend, K. Leyton-Brown, A. Shashua, Y. Shoham.

Eighteenth Conference of the **European Chapter of the Association for Computational Linguistics (EACL)**, pp. 49–66, 2024. `AR 226/1271=18%`

C95. *How to Evaluate Behavioral Models.* G. d'Eon✩, S. Greenwood✩, K. Leyton-Brown, J. Wright. **AAAI Conference on Artificial Intelligence (AAAI)**, 2024. `AR 2342/9862=24%`

C94. *Pay to (Not) Play: Monetizing Impatience in Mobile Games.* T. Lundy✩, N. Raman✩, H. Fu, K. Leyton-Brown. **AAAI Conference on Artificial Intelligence (AAAI)**, 2024. `AR 2342/9862=24%`

C93. *Mechanical TA 2: Peer Grading With TA and Algorithmic Support.* H. Zarkoob✩, K. Leyton-Brown. Fifty-Fifth ACM Technical Symposium on **Computer Science Education (ACM-SIGCSE)**, pp.1470–1476, 2024. `AR 219/665=33%`

C92. *Utilitarian Algorithm Configuration.* D. Graham✩, K. Leyton-Brown, T. Roughgarden. Thirty-Seventh Annual Conference on **Neural Information Processing Systems (NeurIPS)**, 2023. `AR 3222/12343 = 26%`

C91. `>10 cites` *Parallel Context Windows for Large Language Models.* N. Ratner, Y. Levine, Y. Belinkov, O. Ram, I. Magar, O. Abend, E. Karpas, A. Shashua, K. Leyton-Brown, Y. Shoham. Sixty-first Annual Meeting of the **Association for Computational Linguistics (ACL)**, pp. 6383–6402, 2023. `AR 1074/4864=22%`

C90. *Formalizing Preferences Over Runtime Distributions.* D. Graham✩, K. Leyton-Brown, T. Roughgarden. Fortieth **International Conference on Machine Learning (ICML)**, pp. 11659–11682, 2023. `AR 1827/6538=28%`

C89. *Better Peer Grading through Bayesian Inference.* H. Zarkoob✩, G. d'Eon✩, L. Podina✩, K. Leyton-Brown. Thirty-seventh **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 6137–6144, 2023. `AR 1721/8777=20%`

C88. `>10 cites` *The Spotlight: A General Method for Discovering Systematic Errors in Deep Learning Models.* G. d'Eon✩, J. d'Eon, J. Wright, K. Leyton-Brown. Fifth ACM Conference on **Fairness, Accountability, and Transparency (FAccT)**, pp. 1962–1981, 2022. `AR 179/711=25%`

C87. `>10 cites` *The Perils of Learning Before Optimizing.* C. Cameron✩, J. Hartford✩, T. Lundy✩, K. Leyton-Brown. Thirty-sixth **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 3708–3715, 2022. `AR 1349/9251=15%`

C86. `>10 cites` *Valid Causal Inference with (Some) Invalid Instruments.* J. Hartford✩, V. Veitch, D. Sridhar, K. Leyton-Brown. Thirty-eighth **International Conference on Machine Learning (ICML)**, pp. 4096–4106, 2021. `AR 1184/5513=21%`

C85. `>10 cites` *PMI-Masking: Principled Masking of Correlated Spans*, Y. Levine, B. Lenz, O. Lieber, O. Abend, K. Leyton-Brown, M. Tennenholtz, Y. Shoham. Ninth **International Conference on Learning Representations (ICLR)**, (14 pages), 2021. ***Selected as a "Spotlight Presentation."*** `AR Spotlight: (53 oral + 114 spotlight)/2997 = 5.6%; Overall: 860/2997 = 29%`

C84. *Exemplar Guided Active Learning*, J. Hartford✩, K. Leyton-Brown, H. Raviv, D. Padnos, S. Lev, B. Lenz. Thirty-fourth Conference on **Neural Information Processing Systems (NeurIPS)**, (11 pages), 2020. `AR 1900/9454=20%`

C83. *ImpatientCapsAndRuns: Approximately Optimal Algorithm Configuration from an Infinite Pool*, G. Weisz, A. György, W. Lin☆, D. Graham☆, K. Leyton-Brown, C. Szepesvári, B. Lucier. Thirty-fourth Conference on **Neural Information Processing Systems (NeurIPS)**, (11 pages), 2020. `AR 1900/9454=20%`

C82. `>10 cites` *Dynamic Weighted Matching with Heterogeneous Arrival and Departure Rates.* N. Collina, N. Immorlica, K. Leyton-Brown, B. Lucier, N. Newman☆. Sixteenth Conference on **Web and Internet Economics (WINE)**, pp. 17–30, 2020. `AR 42/136=31%`

C81. `>10 cites` *Fiduciary Bandits.* G. Bahar, O. Ben-Porat, K. Leyton-Brown, M. Tennenholtz. Thirty-seventh **International Conference on Machine Learning (ICML)**, pp. 518–527, 2020. `AR 1088/4990=22%`

C80. `>10 cites` *A Formal Separation Between Strategic and Nonstrategic Behavior.* J. Wright, K. Leyton-Brown. Twenty-First ACM Conference on **Economics and Computation (ACM-EC)**, pp. 535–536, 2020. `AR 99/491=20%`

C79. `>10 cites` *Incentive Auction Design Alternatives: A Simulation Study.* N. Newman☆, K. Leyton-Brown, P. Milgrom, I. Segal. Twenty-First ACM Conference on **Economics and Computation (ACM-EC)**, pp. 603–604, 2020. ***Chosen as the Exemplary Paper in the AI and Computation Track.*** `AR 99/491=20%`

C78. `>10 cites` *Report-Sensitive Spot-Checking in Peer-Grading Systems.* H. Zarkoob☆, H. Fu, K. Leyton-Brown. Nineteenth International Conference on **Autonomous Agents and Multi-Agent Systems (AAMAS)**, pp. 1593–1601, 2020. `AR 186/808=23%`

C77. `>10 cites` *Predicting Propositional Satisfiability via End-to-End Learning.* C. Cameron☆, R. Chen☆, J. Hartford☆, K. Leyton-Brown. Thirty-Fourth **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 3324–3331, 2020. `AR 1591/7737=21%`

C76. `>10 cites` *Procrastinating with Confidence: Near-Optimal, Anytime, Adaptive Algorithm Configuration.* R. Kleinberg, K. Leyton-Brown, B. Lucier, D. Graham☆. Thirty-Third Conference on **Neural Information Processing Systems (NeurIPS)**, pp. 8881–8891, 2019. `AR 1428/6743=21%`

C75. `>10 cites` *Allocation for Social Good: Auditing Mechanisms for Utility Maximization.* T. Lundy☆, A. Wei, H. Fu, S. Kominers, K. Leyton-Brown. Twentieth **ACM Conference on Economics and Computation (ACM-EC)**, pp. 785–803, 2019. `AR 108/382=28%`

C74. `>100 cites` *Deep Models of Interactions Across Sets.* D. Graham, J. Hartford☆, K. Leyton-Brown, S. Ravanbakhsh. Thirty-fifth **International Conference on Machine Learning (ICML)**, pp. 1914–1923, 2018. `AR 618/2473=25%`

C73. *Quantifying Algorithmic Improvements over Time.* A. Fréchette☆, L. Kotthoff☆, T. Rahwan, H. Hoos, K. Leyton-Brown, T. Michalak. Twenty-Seventh **International Joint Conference on Artificial Intelligence (IJCAI)**, Special Track on the Evolution of the Contours of AI, pp. 5165–5171, 2018. `AR Conference: 710/3470=20%; Track: 6/26=23%`

C72. `>10 cites` *Designing and Evolving an Electronic Agricultural Marketplace in Uganda.* N. Newman☆, K. Leyton-Brown, N. Immorlica, L. Bergquist, B. Lucier, J. Quinn, C. McIntosh, R. Ssekibuule. **ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)**, pp. 1-11, 2018. `AR 24/70=34%`

C71. [>10 cites] *Efficiency Through Procrastination: Approximately Optimal Algorithm Configuration with Runtime Guarantees.* R. Kleinberg, K. Leyton-Brown, B. Lucier. Twenty-Sixth **International Joint Conference on Artificial Intelligence (IJCAI)**, pp. 2023–2031, 2017.
[AR 660/2540 = 26%]

C70. [>100 cites] *Deep IV: A Flexible Approach for Counterfactual Prediction.* J. Hartford☆, G. Lewis, K. Leyton-Brown, M. Taddy. Thirty-Fourth **International Conference on Machine Learning (ICML)**, pp. 1414-1423, 2017.
[AR 433/1701 = 25%]

C69. *The Positronic Economist: A Computational System for Analyzing Economic Mechanisms.* D. Thompson☆, N. Newman☆, K. Leyton-Brown. Thirty-First **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 720–727, 2017.
[AR 638/2590 = 25%]

C68. [>10 cites] *Resource Graph Games: A Compact Representation for Games with Structured Strategy Spaces.* A. Jiang, H. Chan, K. Leyton-Brown. Thirty-First **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 572–578, 2017.
[AR 638/2590 = 25%]

C67. *Multilinear Games.* H. Chan, A. Jiang, K. Leyton-Brown, R. Mehta. Twelfth Conference on **Web and Internet Economics (WINE)**, pp. 44–58, 2016.
[AR 35/??=??%]

C66. [>100 cites] *Deep Learning for Predicting Human Strategic Behavior.* J. Hartford☆, J. Wright☆, K. Leyton-Brown. Oral presentation at Thirtieth Conference on **Neural Information Processing Systems (NIPS)**, pp. 2424–2432, 2016.
[AR Oral presentation: 43/2500 = 1.7%; Overall: 568/2500 = 23%]

C65. *Bias in Algorithm Portfolio Performance Evaluation.* C. Cameron☆, H. Hoos, K. Leyton-Brown. Twenty-Fifth **International Joint Conference on Artificial Intelligence (IJCAI)**, pp. 712–719, 2016.
[AR 551/2294 = 24%]

C64. *Quantifying the Similarity of Algorithm Configurations.* L. Xu☆, A. Khudabukhsh☆, H. Hoos, K. Leyton-Brown. Tenth **Learning and Intelligent Optimization Conference (LION10)**, pp. 203–217, 2016.

C63. [>10 cites] *Using the Shapley Value to Analyze Algorithm Portfolios.* A. Fréchette☆, L. Kotthoff☆, T. Michalak, T. Rahwan, H. Hoos, K. Leyton-Brown. Thirtieth **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 3397–3403, 2016.
[AR 549/2132 = 26%]

C62. [>10 cites] *Solving the Station Repacking Problem.* A. Fréchette☆, N. Newman☆, K. Leyton-Brown. Thirtieth **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 702–709, 2016.*
[AR 549/2132 = 26%]

C61. [>10 cites] *Mechanical TA: Partially Automated High-Stakes Peer Grading.* J. Wright☆, C. Thornton☆, K. Leyton-Brown. Forty-Sixth ACM Technical Symposium on **Computer Science Education (ACM-SIGCSE)**, pp. 96–101, 2015.
[AR 105/289 = 36%]

C60. [>100 cites] *Efficient Benchmarking of Hyperparameter Optimizers via Surrogates.* K. Eggensperger, F. Hutter, H. Hoos, K. Leyton-Brown. Twenty-Ninth **AAAI Conference on Artificial Intelligence (AAAI)**, pp. 1114–1120, 2015.
[AR 531/1991 = 27%]

C59. [>10 cites] *Level-0 Meta-Models for Predicting Human Behavior in Games.* J. Wright☆, K. Leyton-Brown. Fifteenth ACM Conference on **Economics and Computation (ACM-EC)**, pp. 857–874, 2014.
[AR 80/290 = 28%]

---

*An initial version of paper C62 was accepted and presented at the Twenty-Fourth **International Joint Conference on Artificial Intelligence (IJCAI)**, 2015 (AR: 575/1996 = 29%). However, at the request of the FCC we delayed publication of the paper, which led to its not appearing in the IJCAI proceedings. The paper received a second, full round of peer review for AAAI, and was updated in response to this second round of reviewer comments.

C58. *Reasoning about Optimal Stable Matchings under Partial Information.* B. Rastegari✩, A. Condon, N. Immorlica, R. Irving, K. Leyton-Brown. Fifteenth ACM Conference on **Economics and Computation (ACM-EC)**, pp. 431–448, 2014. `AR 80/290 = 28%`

C57. *Algorithm Configuration in the Cloud: A Feasibility Study.* D. Geschwender✩, F. Hutter✩, L. Kotthoff✩, Y. Malitsky, H. Hoos and K. Leyton-Brown. Seventh **Learning and Intelligent Optimization Conference (LION8)**, pp. 41–46, 2014.

C56. *AClib: a Benchmark Library for Algorithm Configuration.* F. Hutter✩, M. Lopez-Ibanez, C. Fawcett, M. Lindauer, H. Hoos, K. Leyton-Brown, T. Stützle. Seventh **Learning and Intelligent Optimization Conference (LION8)**, pp. 36–40, 2014.

C55. *Improved Features for Runtime Prediction of Domain-Independent Planners.* C. Fawcett, M. Vallati, F. Hutter✩, J. Hoffmann, H. Hoos, K. Leyton-Brown. Twenty-Fourth **International Conference on Automated Planning and Scheduling (ICAPS)**, (5 pages), 2014. `AR 62/164= 38%`

C54. *An Efficient Approach for Assessing Hyperparameter Importance.* F. Hutter✩, H. Hoos, K. Leyton-Brown. Thirty-First **International Conference on Machine Learning (ICML)**, pp. 754–762, 2014. `AR 85/577 = 15%`

C53. *A Mobile Market for Agricultural Trade in Uganda.* R. Ssekibuule, J. Quinn, K. Leyton-Brown. Fourth ACM Symposium on **Computing for Development (ACM-DEV)**, pp. 1–10, 2013. `AR 14/43 = 33%`

C52. *Auto-WEKA: Combined Selection and Hyperparameter Optimization of Classification Algorithms.* C. Thornton✩, F. Hutter✩, H. Hoos, K. Leyton-Brown. Nineteenth ACM Conference on **Knowledge, Discovery, and Data Mining (KDD)**, pp. 847–855, 2013. ***Received the 2023 ACM SIG-KDD Research Track Test of Time Award.*** `AR 125/726 = 17%`

C51. *Two-Sided Matching with Partial Information.* B. Rastegari✩, A. Condon, N. Immorlica, K. Leyton-Brown. Fourteenth ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 733–750, 2013. `AR 73/225 = 32%`

C50. *Revenue Optimization in the Generalized Second-Price Auction.* D. Thompson✩, K. Leyton-Brown. Fourteenth ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 837–852, 2013. `AR 73/225 = 32%`

C49. *Empirical Analysis of Plurality Election Equilibria.* D. Thompson✩, O. Lev, K. Leyton-Brown, J. Rosenschein. Twelfth International Conference on **Autonomous Agents and Multiagent Systems (AAMAS)**, pp. 391–398, 2013. `AR 140/612 = 23%`

C48. *Identifying Key Algorithm Parameters and Instance Features using Forward Selection.* F. Hutter✩, H. Hoos, K. Leyton-Brown. Seventh **Learning and Intelligent Optimization Conference (LION7)**, pp. 364–381, 2013.

C47. *Approximately Revenue-Maximizing Auctions for Deliberative Agents.* D. Thompson✩, K. Leyton-Brown, L.E. Celis, A.R. Karlin, C.T. Nguyen. Twenty-Sixth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, (7 pages), 2012. `AR 294/1129 = 26%`

C46. *Predicting Satisfiability at the Phase Transition.* L. Xu✩, H. Hoos, K. Leyton-Brown. Twenty-Sixth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, (7 pages), 2012. `AR 294/1129 = 26%`

C45. *The Deployment-to-Saturation Ratio in Security Games.* M. Jain, K. Leyton-Brown, M. Tambe. Twenty-Sixth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, (7 pages), 2012. `AR 294/1129 = 26%`

C44. *Behavioral Game Theoretic Models: A Bayesian Framework For Parameter Analysis.* J. Wright☆, K. Leyton-Brown. Eleventh International Conference on **Autonomous Agents and Multiagent Systems (AAMAS)**, pp. 921–930, 2012. `AR 137/671 = 20%`

C43. *Evaluating Component Solver Contributions in Portfolio-based Algorithm Selectors.* L. Xu☆, F. Hutter☆, K. Leyton-Brown, H. Hoos. Fifteenth International Conference on **Theory and Applications of Satisfiability Testing (SAT)**, pp. 228–241, 2012. `AR 29/88 = 33%`

C42. *TRUSTS: Scheduling Randomized Patrols for Fare Inspection in Transit Systems.* Z. Yin, A. Jiang, M.P. Johnson, M. Tambe, K. Leyton-Brown, T. Sandholm, J.P. Sullivan, C. Kiekintveld. Twenty-Fourth Conference on **Innovative Applications of Artificial Intelligence (IAAI)**, (8 pages), 2012.

C41. *Parallel Algorithm Configuration.* F. Hutter☆, H. Hoos, K. Leyton-Brown. Sixth **Learning and Intelligent Optimization Conference (LION)**, pp. 55–70, 2012. `AR 24/77 = 31%`

C40. *Computing Nash Equilibria of Action-Graph Games via Support Enumeration.* D. Thompson☆, S. Leung☆, K. Leyton-Brown. Seventh **Workshop on Internet and Network Economics (WINE)**, pp. 338–350, 2011. `AR 30/100 = 30%`

C39. *A General Framework for Computing Optimal Correlated Equilibria in Compact Games.* A. Jiang☆, K. Leyton-Brown. Seventh **Workshop on Internet and Network Economics (WINE)**, pp. 218–229, 2011. `AR 30/100 = 30%`

C38. *Dominant-Strategy Auction Design for Agents with Uncertain, Private Values.* D. Thompson☆, K. Leyton-Brown. Twenty-Fifth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, (6 pages), 2011. `AR 242/975 = 25%`

C37. *Modeling and Monitoring Crop Disease in Developing Countries.* J. Quinn, K. Leyton-Brown, E. Mwebaze. Twenty-Fifth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, Computational Sustainability and AI Track, (6 pages), 2011. `AR 242/975 = 25%`

C36. *Polynomial-time Computation of Exact Correlated Equilibrium in Compact Games.* A. Jiang☆, K. Leyton-Brown. Twelfth ACM Conference on **Electronic Commerce (ACM-EC)**, pp. pp. 119–126, 2011. ***Best student paper award.*** `AR 49/189 = 26%`

C35. *Sequential Model-Based Optimization for General Algorithm Configuration.* F. Hutter☆, H. Hoos, K. Leyton-Brown. Fifth **Learning and Intelligent Optimization Conference (LION)**, pp. 507–523, 2011. ***Runner-up best paper award.*** `AR 43/99 = 43%`

C34. *HAL: A Framework for the Automated Design and Analysis of High-Performance Algorithms.* C. Nell☆, C. Fawcett, H. Hoos, K. Leyton-Brown. Fifth **Learning and Intelligent Optimization Conference (LION)**, pp. 600–615, 2011. `AR 43/99 = 43%`

C33. *Bayesian Action-Graph Games.* A. Jiang☆, K. Leyton-Brown. Twenty-Fourth Annual Conference on **Neural Information Processing Systems (NIPS)**, 2010. `AR 293/1219 = 24%`

C32. *Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.* J. Wright☆, K. Leyton-Brown. Twenty-Fourth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 901–907, 2010. `AR 264/982 = 27%`

C31. *Hydra: Automatically Configuring Algorithms for Portfolio-Based Selection.* L. Xu⋆, H. Hoos, K. Leyton-Brown. Twenty-Fourth Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 210–216, 2010. `AR 264/982 = 27%`

C30. *Automated Configuration of Mixed Integer Programming Solvers.* F. Hutter⋆, H. Hoos, K. Leyton-Brown. Seventh International Conference on **Integration of Artificial Intelligence and Operations Research techniques in Constraint Programming (CPAIOR)**, pp. 186–202, 2010. `AR 18/39 = 46%`

C29. *Computing Pure Strategy Nash Equilibria in Compact Symmetric Games.* A. Jiang⋆, C.T. Ryan⋆, K. Leyton-Brown. Eleventh ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 63–72, 2010. `AR Full paper presentation: 45/136 = 33%`

C28. *Time-Bounded Sequential Parameter Optimization.* F. Hutter⋆, H. Hoos, K. Leyton-Brown, K. Murphy. Fourth **Learning and Intelligent Optimization (LION)** Conference, pp. 281–298, 2010. ***Runner-up best paper award.*** `AR 19/57 = 33%`

C27. *Temporal Action-Graph Games: A New Representation for Dynamic Games.* A. Jiang⋆, K. Leyton-Brown, A. Pfeffer. Twenty-fifth Conference on **Uncertainty in Artificial Intelligence (UAI)**, Montreal, pp. 268–276, 2009. `AR Plenary presentation: 30/243 = 12%`

C26. *Computational Analysis of Perfect-Information Position Auctions.* D. Thompson⋆, K. Leyton-Brown. Tenth ACM Conference on **Electronic Commerce (ACM-EC)**, Stanford, pp. 51–60, 2009. `AR 40/161 = 25%`

C25. *SATenstein: Automatically Building Local Search SAT Solvers From Components.* A.R. Khuda-Bukhsh⋆, L. Xu⋆, H. Hoos, K. Leyton-Brown. Twenty-first **International Joint Conference on Artificial Intelligence (IJCAI)**, Pasadena, pp. 517–524, 2009. `AR 331/1290 = 26%`

C24. *An Experimental Investigation of Model-Based Parameter Optimisation: SPO and Beyond.* F. Hutter⋆, H. Hoos, K. Leyton-Brown, K. Murphy. 11th ACM **Genetic and Evolutionary Computation Conference (GECCO)**, pp. 271–278, Montreal, 2009. `AR 220/531 = 41%`

C23. *Stepwise Randomized Combinatorial Auctions Achieve Revenue Monotonicity.* B. Rastegari⋆, A. Condon, K. Leyton-Brown. Ninteenth ACM-SIAM **Symposium on Discrete Algorithms (SODA)**, pp. 738–747, New York, 2009. `AR 135/458 = 29%`

C22. *Hierarchical Hardness Models for SAT.* **L. Xu**, H. Hoos, K. Leyton-Brown. Thirteenth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 4741, Springer Berlin, pp. 696–711, Providence, 2007. `AR 43/143 = 30%`

C21. *SATzilla-07: The Design and Analysis of an Algorithm Portfolio for SAT.* **L. Xu, F. Hutter**, H. Hoos, K. Leyton-Brown. Thirteenth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 4741, Springer Berlin, pp. 712–727, Providence, 2007. `AR 43/143 = 30%`

C20. *Computing Pure Nash Equilibria in Symmetric Action Graph Games.* A. Jiang⋆, K. Leyton-Brown. Twenty-second Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 79–85, Vancouver, 2007. `AR 253/921 = 27%`

C19. *Valuation Uncertainty and Imperfect Introspection in Second-Price Auctions.* D. Thompson⋆, K. Leyton-Brown. Twenty-second Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 148–153, Vancouver, 2007. `AR 253/921 = 27%`

C18. [>10 cites] *Revenue Monotonicity in Combinatorial Auctions.* B. Rastegari☆, A. Condon, K. Leyton-Brown. Twenty-second Conference of the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 122–127, Vancouver, 2007. `AR 253/921 = 27%`

C17. [>100 cites] *Performance Prediction and Automated Tuning of Randomized and Parametric Algorithms*, F. Hutter☆, Y. Hamadi, H. Hoos, K. Leyton-Brown. Twelfth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 4204, Springer Berlin, pp. 213–228, 2006. `AR 42/142 = 30%`

C16. [>10 cites] *A Polynomial-Time Algorithm for Action-Graph Games.* A. Jiang☆, K. Leyton-Brown. Twenty-first Conference of the **American Association for Artificial Intelligence (AAAI)**, pp. 679–684, Boston, 2006. `AR 236/776 = 30%`

C15. [>10 cites] *Computing Nash Equilibria of Action-Graph Games.* N. Bhat, K. Leyton-Brown. In 20th Conference on **Uncertainty in Artificial Intelligence (UAI)**, pp. 35–42, Banff, 2004. `AR 76/253=30%`

C14. [>100 cites] *Understanding Random SAT: Beyond the Clauses-to-Variables Ratio.* E. Nudelman☆, K. Leyton-Brown, H. Hoos, A. Devkar☆, Y. Shoham. Tenth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 3258, Springer Berlin, pp. 438–452, Toronto, 2004. `AR 46/158 = 29%`

C13. [>100 cites] *Run the GAMUT: A Comprehensive Approach to Evaluating Game-Theoretic Algorithms.* E. Nudelman☆, J. Wortman☆, Y. Shoham, K. Leyton-Brown. In Third **International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS)**, pp. 880–887, New York, 2004. `AR 142/577=25%`

C12. [>10 cites] *Boosting as a Metaphor for Algorithm Design.* K. Leyton-Brown, E. Nudelman☆, G. Andrew☆, J. McFadden☆, Y. Shoham. In Ninth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 2833, Springer Berlin, pp. 899–903, Cork, 2003. `AR 48/181=27%`

C11. [>100 cites] *Local-Effect Games.* K. Leyton-Brown, M. Tennenholtz. In Eighteenth **International Joint Conference on Artificial Intelligence (IJCAI)**, pp. 772–777, Acapulco, 2003. `AR 189/913 = 21%`

C10. [>100 cites] *A Portfolio Approach to Algorithm Selection.* K. Leyton-Brown, E. Nudelman☆, G. Andrew☆, J. McFadden☆, Y. Shoham. In Eighteenth **International Joint Conference on Artificial Intelligence (IJCAI)**, pp. 1542–1543, Acapulco, 2003. `AR Poster paper: 252/913 = 28%`

C9. [>100 cites] *Learning the Empirical Hardness of Optimization Problems: the case of combinatorial auctions.* K. Leyton-Brown, E. Nudelman☆, Y. Shoham. Eighth International Conference on **Principles and Practice of Constraint Programming (CP)**, in Lecture Notes in Computer Science 2470, Springer Berlin, pp. 556–572, Ithaca, 2002. `AR 44/146 = 30%`

C8. [>10 cites] *Bidding Clubs in First-Price Auctions (extended abstract).* K. Leyton-Brown, Y. Shoham, M. Tennenholtz. In Eighteenth **National Conference on Artificial Intelligence (AAAI)**, pp. 373–378, Edmonton, 2002. `AR 121/469 = 26%`

C7. *Smoothing Out Focused Demand in Networks (extended abstract).* K. Leyton-Brown, R. Porter☆, S. Venkataraman☆, B. Prabhakar. In Third ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 245–248, Tampa, 2001. `AR 35/100=35%`

C6. *Incentives for Sharing in Peer-to-Peer Networks (extended abstract).* P. Golle, K. Leyton-Brown, I. Mironov. In Third ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 264–267, Tampa, 2001. `AR 35/100=35%`

C5. *Incentives for Sharing in Peer-to-Peer Networks.* P. Golle, K. Leyton-Brown, I. Mironov, M. Lillibridge. Second International **Workshop on Electronic Commerce (WELCOM)**, in Lecture Notes in Computer Science 2232, Springer Berlin, pp. 75–87, Heidelberg, Germany, 2001. `AR 17/36 = 47%`

C4. *Towards a Universal Test Suite for Combinatorial Auctions.* K. Leyton-Brown, M. Pearson✩, Y. Shoham. In Second ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 66–76, Minneapolis, 2000. `AR 29/150=19%`

C3. *Bidding Clubs: Institutionalized Collusion in Auctions.* K. Leyton-Brown, M. Tennenholtz, Y. Shoham. In Second ACM Conference on **Electronic Commerce (ACM-EC)**, pp. 253–259, Minneapolis, 2000. `AR 29/150=19%`

C2. *An Algorithm for Multi-Unit Combinatorial Auctions.* K. Leyton-Brown, M. Tennenholtz, Y. Shoham. In Seventeenth **National Conference on Artificial Intelligence (AAAI)**, pp. 56–61, Austin, 2000. `AR 143/431 = 33%`

C1. *Taming the Computational Complexity of Combinatorial Auctions: Optimal and Approximate Approaches.* Y. Fujishjima, K. Leyton-Brown, Y. Shoham. In Sixteenth **International Joint Conference on Artificial Intelligence (IJCAI)**, pp. 548–553, Stockholm, Sweden, 1999. `AR 194/750=26%`

(c)   Other: Nonarchival and/or Less Rigorously Refereed Publications

The publications listed in this section are peer reviewed and in many cases high impact. However, they differ from those listed above in being published in venues that are nonarchival and/or that review submissions less rigorously than top-quality journals. I chose these venues primarily to reach appropriate audiences, such as specialists focusing on a particular problem, or researchers from other disciplines who do not follow the computer science literature.

O48. *Huge Frozen Language Models as Readers for Open-Domain Question Answering*, Y. Levine, O. Ram, D. Jannai, B. Lenz, S. Shalev-Shwartz, A. Shashua, K. Leyton-Brown, Y. Shoham. Workshop on Knowledge Retrieval and Language Models (KRLM) at the Thirty-Ninth **International Conference on Machine Learning (ICML)**, 2022.

O47. *Debating Corporate Responsibility in the Era of Digitization and Digitalization.* M. Schormair, T.J. Donaldson, V. Glaser, K. Leyton-Brown, K.E. Martin, **Academy of Management Annual Meeting** Proceedings, p. 21319, 2020.

O46. *Incentivizing Evaluation with Peer Prediction and Limited Access to Ground Truth (Extended Abstract).* A. Gao, J. Wright, K. Leyton-Brown. **International Joint Conference on Artificial Intelligence (IJCAI) Journal Track**, (five pages), 2020. This is an extended abstract of journal paper J25, published in a special track at IJCAI on papers that recently appeared in the top AI journal without having previously appeared as conference publications. It was competitively peer reviewed for IJCAI.

O45. *Identifying Valid Instruments via Effect Agreement.* J. Hartford✩, K. Leyton-Brown. Workshop on Causal Machine Learning (CausalML) the 33rd Conference on **Neural Information Processing Systems (NeurIPS)**, 2019.

O44. *Predicting Propositional Satisfiability via End-to-End Learning.* C. Cameron✩, R. Chen✩, J. Hartford✩, K. Leyton-Brown. Workshop on Graph Representation Learning (GRL 2019) at the 33rd Conference on **Neural Information Processing Systems (NeurIPS)**, 2019.

O43. *A Formal Separation Between Strategic and Nonstrategic Behavior.* J. Wright, K. Leyton-Brown. Workshop on Behavioral Economics and Computation at the 20th **ACM Conference on Economics and Computation (ACM-EC)**, 2019.

O42. *Report-Sensitive Spot-checking in Peer Grading (Extended Abstract).* H. Zarkoob✫, H. Fu, K. Leyton-Brown. Eighteenth International Conference on **Autonomous Agents and Multiagent Systems (AAMAS)**, (3 pages), 2019.

O41. *Designing and Evolving an Electronic Agricultural Marketplace in Uganda.* N. Newman✫, L. Falcao-Bergquist, N. Immorlica, K. Leyton-Brown, B. Lucier, C. McIntosh and R. Ssekibuule. Mechanism Design for Social Good Workshop at the 19th **ACM Conference on Economics and Computation (ACM-EC)**, 2018.

O40. *Artificial intelligence in 2027.* M. Gini, N. Agmon, F. Giunchiglia, S. Koenig, K. Leyton-Brown. AI Matters (the quarterly newsletter of the **ACM Special Interest Group in Artificial Intelligence**). Volume 4 Issue 1, pp. 10–20, Spring 2018.

O39. *Deep Counterfactual Prediction using Instrumental Variables.* J. Hartford✫, G. Lewis, K. Leyton-Brown, M. Taddy. Workshop on Inference and Learning of Hypothetical and Counterfactual Interventions in Complex Systems at the 30th Conference on **Neural Information Processing Systems (NIPS)**, 2016.

O38. *Incentivizing Evaluation via Limited Access to Ground Truth: Peer-Prediction Makes Things Worse.* X. A. Gao✫, J. R. Wright✫, K. Leyton-Brown. Workshop on Algorithmic Game Theory and Data Science at the 17th **ACM Conference on Electronic Commerce (ACM-EC)**, 2016.

O37. *Deep Learning for Predicting Human Strategic Behavior.* J. Hartford✫, J.R. Wright✫, K. Leyton-Brown. Fifth **World Congress of the Game Theory Society (Games 2016)**, 2016.

O36. *Resource Graph Games: A Compact Representation for Games with Structured Strategy Spaces (Extended Abstract).* A.X. Jiang, K. Leyton-Brown. 26th **International Conference on Game Theory in Stony Brook**, 2015.

O35. *Algorithm Runtime Prediction: Methods & Evaluation (Extended Abstract).* F. Hutter, L. Xu✫, H. Hoos, K. Leyton-Brown. **International Joint Conference on Artificial Intelligence (IJCAI) Journal Track**, (six pages), 2015. This is an extended abstract of journal paper J11, published in a special track at IJCAI on papers that recently appeared in the top AI journal without having previously appeared as conference publications. It was competitively peer reviewed for IJCAI.

O34. [>10 cites] *Surrogate Benchmarks for Hyperparameter Optimization*, K. Eggensperger, F. Hutter, H. Hoos, K. Leyton-Brown. Workshop on Meta-Learning and Algorithm Selection (MetaSel) at the **European Conference on Artificial Intelligence (ECAI)**, 2014.

O33. [100 cites] *Towards an Empirical Foundation for Assessing Bayesian Optimization of Hyperparameters*, K. Eggensperger, M. Feurer, F. Hutter, J. Bergstra, J. Snoek, H. Hoos, K. Leyton-Brown. Workshop on Bayesian Optimization, at the Conference on **Neural Information Processing Systems (NIPS)**, 2013.

O32. *Advances in Algorithm Runtime Prediction*, F. Hutter, L. Xu, H. Hoos, K. Leyton-Brown. Second workshop on COmbining COnstraint solving with MIning and LEarning (COCOMILE) at the **Conference on Artificial Intelligence (AAAI)**, 2013.

O31. [>10 cites] *An evaluation of sequential model-based optimization for expensive blackbox functions.* F. Hutter, H. Hoos, K. Leyton-Brown. Workshop on Black Box Optimization Benchmarking (BBOB) at the **Genetic and Evolutionary Computation Conference (GECCO)**, pp. 1209–1216, 2013.

O30. *Empirical Analysis of Plurality Election Equilibria.* D. Thompson✫, O. Lev, K. Leyton-Brown, J. Rosenschein. Fourth International **Workshop on Computational Social Choice (COMSOC)**, (13 pages), 2012.

O29. *Algorithm Configuration for Portfolio-based Parallel SAT-Solving.* H. Hoos, K. Leyton-Brown, T. Schaub, M. Schneider. Workshop on Combining Constraint Solving with Mining and Learning (CoCoMile) at the **European Conference on Artificial Intelligence (ECAI)**, (5 pages), 2012.

O28. *Two-Sided Matching with Partial Information.* B. Rastegari, A. Condon, N. Immorlica, K. Leyton-Brown. Fourth **World Congress of the Game Theory Society (Games 2012)**, 2012.

O27. *Beyond Equilibrium: Predicting Human Behavior in Normal Form Games.* J. Wright, K. Leyton-Brown. Fourth **World Congress of the Game Theory Society (Games 2012)**, 2012.

O26. 🔟 *Towards Optimal Patrol Strategies for Fare Inspection in Transit Systems.* A. Jiang, Z. Yin, C. Kietkintveld, K. Leyton-Brown, T. Sandholm, M. Tambe. **AAAI Spring Symposium** on Game Theory for Security, Sustainability and Health, 2012.

O25. *Which Security Games are Hard to Solve?* M. Jain, K. Leyton-Brown, M. Tambe. **AAAI Spring Symposium** on Game Theory for Security, Sustainability and Health, 2012.

O24. 🔟 *Bayesian Optimization With Censored Response Data*, F. Hutter✩, H. Hoos, K. Leyton-Brown. Workshop on "Bayesian Optimization, Experimental Design, and Bandits" at the **Conference on Neural Information Processing Systems (NIPS)**, 2011.

O23. 💯 *Hydra-MIP: Automated Algorithm Configuration and Selection for Mixed Integer Programming*, L. Xu✩, F. Hutter✩, H. Hoos, K. Leyton-Brown. Eighteenth RCRA workshop on "Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion" at the **International Joint Conference on Artificial Intelligence (IJCAI)**, (15 pages), Barcelona, 2011.

O22. *Linear Solvers for Nonlinear Games: Using Pivoting Algorithms to Find Nash Equilibria in n-Player Games.* J. Wright✩, A. Jiang✩, K. Leyton-Brown. **SIGecom Exchanges**, volume 10, number 1, pages 6–8, March 2011.

O21. *Polynomial Computation of Exact Correlated Equilibrium in Compact Games.* A. Jiang✩, K. Leyton-Brown. **SIGecom Exchanges**, volume 10, number 1, pages 9–12, March 2011.

O20. *Computational Methods for Position Auctions.* D. Thompson✩, K. Leyton-Brown. **NECTAR (new scientific and technical advances in research) track at the AAAI Conference on Artificial Intelligence (AAAI-10)**, pp. 1694–1697, 2010. ⏣ 12/48 = 25%

This is a short-paper summary of paper C26, published in a special track at AAAI on influential papers from specialist conferences. It contains all new text and was competitively peer reviewed for AAAI.

O19. 🔟 *Tractable Computational Methods for Finding Nash Equilibria of Perfect-Information Position Auctions.* D. Thompson✩, K. Leyton-Brown. Workshop on Ad Auctions at the 2008 **ACM Conference on Electronic Commerce (ACM-EC)**, (10 pages), Chicago, 2008.

O18. *Using Empirical Methods to Compare Multiagent Learning Algorithms.* E. Zawadzki✩, A. Lipson✩, K. Leyton-Brown. Third **World Congress of the Game Theory Society (Games)**, (abstract), Evanston, 2008.

O17. *Revenue Monotonicity: New Results for Deterministic and Randomized Mechanisms.* B. Rastegari✩, A. Condon, K. Leyton-Brown. Third **World Congress of the Game Theory Society (Games)**, (abstract), Evanston, 2008.

O16. *Action-Graph Games.* A. Jiang✩, N. Bhat, K. Leyton-Brown. Third **World Congress of the Game Theory Society (Games)**, (abstract), Evanston, 2008.

O15. *Deterministic, Dominant Strategy Auction Design for Agents with Costly Private Information.* D. Thompson✩, K. Leyton-Brown. Third **World Congress of the Game Theory Society (Games)**, (abstract), Evanston, 2008.

O14. *Revenue Monotonicity in Combinatorial Auctions.* B. Rastegari✩, A. Condon, K. Leyton-Brown. **SIGecom Exchanges**, volume 7, number 1, (3 pages: electronic journal), December 2007.

O13. *Empirically Testing Decision Making in TAC SCM.* E. Zawadzki✩, K. Leyton-Brown. Fifth Workshop on Trading Agent Design and Analysis at the **Association for the Advancement of Artificial Intelligence (AAAI)**, pp. 45–54, Vancouver, 2007.

O12. *Valuation Uncertainty and Imperfect Introspection in Second-Price Auctions.* D. Thompson✩, K. Leyton-Brown. **DIMACS Workshop on Auctions with Transaction Costs**, (16 pages), Piscataway, 2007.

O11. *Performance Prediction and Automated Tuning of Randomized and Parametric Algorithms: An Initial Investigation.* F. Hutter✩, Y. Hamadi, H. Hoos, K. Leyton-Brown. Workshop on Learning for Search at the **American Association for Artificial Intelligence (AAAI)**, Boston, (6 pages), 2006.

O10. *n-Body Games.* A. Jiang✩, K. Leyton-Brown. In Workshop on Game Theory, Machine Learning and Reasoning under Uncertainty at the Neural Information Processing Systems Conference (NIPS-05), Vancouver, (17 pages), 2005.

O9. ⌗ *Estimating Bidders' Valuation Distributions in Online Auctions.* A. Jiang✩, K. Leyton-Brown. In Game Theory and Decision Theory (GTDT) Workshop at the **International Conference on Artificial Intelligence (IJCAI)**, (16 pages), Edinburgh, 2005.

O8. *Action-Graph Games, and an Algorithm for Computing their Equilibria.* N. Bhat, K. Leyton-Brown. Fifteenth **International Conference on Game Theory at Stony Brook**, (abstract), July 2004.

O7. *Action-Graph Games, and an Algorithm for Computing their Equilibria.* N. Bhat, K. Leyton-Brown. In Second **World Congress on Game Theory (Games)**, (abstract), Marseille, 2004.

O6. *Understanding Game-Theoretic Algorithms: The Game Matters.* E. Nudelman✩, J. Wortman✩, Y. Shoham, K. Leyton-Brown. In Second **World Congress on Game Theory (Games)**, (abstract), Marseille, 2004.

O5. *Diffusing Focused Loads in Networks using Pricing.* K. Leyton-Brown, R. Porter✩, S. Venkataraman✩, B. Prabhakar. SPIE conference on Scalability and Traffic Control in IP networks, at **International Society for Optical Engineering (SPIE) ITCom**, (abstract), Denver, 2001.

O4. *Bidding Clubs: Institutionalized Collusion in Auctions.* K. Leyton-Brown, Y. Shoham, M. Tennenholtz. In First **World Congress of The Game Theory Society (Games)**, (abstract), Bilbao, Spain, 2000.

O3. *An Algorithm for Multi-Unit Combinatorial Auctions.* K. Leyton-Brown, Y. Shoham, M. Tennenholtz. In First **World Congress of The Game Theory Society (Games)**, (abstract), Bilbao, Spain, 2000.

O2. *The Role of Cytochrome Oxidase Blobs in the Development of Ocular Dominance and Orientation Maps.* D.G. Jones, K. Leyton-Brown. In **Society for Neuroscience Abstracts**, volume 24, p. 813, 1998.

O1. *The Role of Cytochrome Oxidase Blobs in the Development of Ocular Dominance and Orientation Maps.* D.G. Jones, K. Leyton-Brown, D. DiFilippo, C. Moti Persad. In Thirty-Ninth Annual Meeting of the **Association for Research in Vision and Opthalmology (ARVO)**, p. S326, Orlando, March 1998.

2.   NON-REFEREED PUBLICATIONS

(a)   Non-Refereed Journals

NJ4. *The New Faculty Highlights Program at AAAI-21.* K. Leyton-Brown, Mausam, Q. Yang. AI Magazine, Volume 43, Issue 4, Page 343, 2022.

NJ3. *Introduction to the Special Issue on EC'12.* K. Leyton-Brown, P. Ipeirotis. ACM Transactions on Economics and Computation (TEAC), Volume 3, Issue 1, p. 1, March 2015.

NJ2. *Introduction to the Special Issue on EC'08 and '09.* M. Feldman, K. Leyton-Brown. Games and Economic Behavior (GEB), Special Issue on Best Papers from 2008 and 2009 ACM Electronic Commerce Conferences, volume 86, p. 339, July 2014.

NJ1. 〔>10 cites〕 *Introduction to the Special Issue on Algorithmic Game Theory and Artificial Intelligence.* E. Elkind, K. Leyton-Brown. Artificial Intelligence Magazine, volume 31, number 4, pp. 9–12, Winter 2010. While the special issue proposal itself was peer reviewed, the final text of the introduction was not, and so I list it here.

(b) Non-Refereed Conference Proceedings

In some cases, these non-refereed publications also correspond to invited talks, and thus also appear in the corresponding section under "Scholarly and Professional Activities" above. I have given such items the designation "invited oral presentation."

NC22. *Standing on the Shoulders of Giant Frozen Language Models.* Y. Levine, O. Ram, I. Dalmedigos, Y. Zeldes, D. Jannai, D. Muhlgay, Y. Osin, O. Lieber, B. Lenz, S. Shalev-Shwartz, A. Shashua, K. Leyton-Brown, Y. Shoham. The Israeli Seminar on Computational Linguistics, 2022.

NC21. *TRUSTS: Scheduling Randomized Patrols for Fare Inspection in Transit Systems.* Z. Yin, A. Jiang, M.P. Johnson, M. Tambe, K. Leyton-Brown, T. Sandholm, J.P. Sullivan, C. Kiekintveld. Annual Meeting of the Society for Risk Analysis (SRA), San Francisco, December 2012.

NC20. 〔>100 cites〕 *SATzilla2012: Improved Algorithm Selection Based on Cost-sensitive Classification Models.* L. Xu, F. Hutter, J. Shen, H. Hoos, K. Leyton-Brown. International Conference on Theory and Applications of Satisfiability Testing (SAT), SAT Challenge 2012: Solver Descriptions, 2012.

NC19. *Detailed SATzilla Results from the Data Analysis Track of the 2011 SAT Competition.* L. Xu[✩], F. Hutter[✩], H. Hoos and K. Leyton-Brown. In Fourteenth International Conference on Theory and Applications of Satisfiability Testing, SAT 2011 Competition: Data Analysis Track (`http://www.cril.univ-artois.fr/SAT11`), 2011.

NC18. *Computational Analysis of Perfect-Information Position Auctions.* D. Thompson[✩], K. Leyton-Brown. INFORMS Invited Session on Rich Preference Models in Advertising Auctions, INFORMS Annual Meeting, p. 206, San Diego, October 2009. Invited oral presentation

NC17. 〔>10 cites〕 *SATzilla2009: an Automatic Algorithm Portfolio for SAT.* L. Xu[✩], F. Hutter[✩], H. Hoos and K. Leyton-Brown. In Twelfth International Conference on Theory and Applications of Satisfiability Testing, SAT 2009 Competition: Solver Descriptions, 2009.

NC16. *Computing Pure Nash Equilibria in Action Graph Games.* A. Jiang[✩], K. Leyton-Brown. INFORMS Sponsored Session on Networks, Game Theory, and Computation, INFORMS Annual Meeting, p. 239, Washington D.C., October 2008. Invited oral presentation.

NC15. *Deterministic, Dominant Strategy Auctions for Deliberative Agents: A Characterization and an Impossibility Result.* D. Thompson[✩], K. Leyton-Brown. INFORMS Invited Session on Extending Auction Theory: Computational Perspectives, INFORMS Annual Meeting, p. 310, Washington D.C., October 2008.

NC14. *Computational Methods for Analyzing Complex Markets: Solving Ad Auctions.* D. Thompson[*], K. Leyton-Brown. INFORMS Invited Session on Auctions and Mechanism Design, INFORMS Annual Meeting, p. 354, Washington D.C., October 2008. Invited oral presentation.

NC13. *Revenue Monotonicity in Combinatorial Auctions.* B. Rastegari[*], A. Condon, K. Leyton-Brown. INFORMS Auctions Sponsored Session, INFORMS Annual Meeting, p. 112, Seattle, November 2007.

NC12. *Auctions for Deliberative Agents.* D. Thompson[*], K. Leyton-Brown. INFORMS Auctions Sponsored Session, INFORMS Annual Meeting, p. 112, Seattle, November 2007.

NC11. *Revenue Monotonicity in Combinatorial Auctions.* B. Rastegari[*], A. Condon, K. Leyton-Brown. Dagstuhl seminar 07271 on Computational Social Systems and the Internet, Dagstuhl proceedings 07271, Schloss Dagstuhl, (6 pages), Germany, July 2007. Invited oral presentation.

NC10. *Game-Theoretic Analysis of Network Quality-of-Service Pricing.* D. Thompson, A. Jiang[*], K. Leyton-Brown. In BC.NET 2007 Conference, (poster), Vancouver, 2007.

NC9. *Bidding Agents for Online Auctions with Hidden Bids.* A. Jiang[*], K. Leyton-Brown. INFORMS Computing Society/Auctions and Computer Science Sponsored Session, INFORMS Annual Meeting, p. 276, Pittsburgh, November 2006. Invited oral presentation.

NC8. *Empirical Hardness Models for Uniform-Random and Structured SAT.* K. Leyton-Brown, L. Xu[*], H. Hoos, E. Nudelman[*], Y. Shoham. INFORMS Computing Society/Constraint and Integer Programming Sponsored Session, INFORMS Annual Meeting, p. 200, San Francisco, November 2005. Invited oral presentation.

NC7. *Game-Theoretic Graphical Models for Congestion.* K. Leyton-Brown, N. Bhat, M. Tennenholtz. Dagstuhl seminar 05011 on Computing and Markets, Dagstuhl proceedings 05011, Schloss Dagstuhl, (6 pages), Germany, January 2005. Invited oral presentation.

NC6. [210 cites] *SATzilla: An Algorithm Portfolio for SAT.* E. Nudelman[*], A. Devkar[*], Y. Shoham, K. Leyton-Brown, H. Hoos. In Seventh International Conference on Theory and Applications of Satisfiability Testing, SAT 2004 Competition: Solver Descriptions, pp. 13–14, Vancouver, May 2004.

NC5. *Satzilla 0.9.* E. Nudelman[*], K. Leyton-Brown, G. Andrew[*], C. Gomes, J. McFadden[*], B. Selman, Y. Shoham. In Sixth International Conference on Theory and Applications of Satisfiability Testing, SAT 2003 Competition: Solver Descriptions, Portofino, Italy, 2003.

NC4. *Designing Incentive Mechanisms for Diffusing Focused Loads on Network Systems.* K. Leyton-Brown, R. Porter[*], S. Venkataraman[*], B. Prabhakar. In Seventeenth IEEE Computer Communications Workshop, (abstract) Santa Fe, October 2002.

NC3. *Learning the Empirical Hardness of Optimization Problems: the case of combinatorial auctions.* K. Leyton-Brown, E. Nudelman[*], Y. Shoham. Dagstuhl seminar 02241 on Electronic Market Design, Schloss Dagstuhl, (abstract), Germany, June 2002. Invited oral presentation.

NC2. *Response to Prof. Milgrom and Prof. Ausubel's Comments on the Second Wye River Package Bidding Conference.* K. Leyton-Brown. Published on the Federal Communication Commission's Combinatorial Bidding Conference 2001 website, (9 pages), January 2002.

NC1. *An Algorithm for Multi-Unit Combinatorial Auctions.* K. Leyton-Brown, Y. Shoham, M. Tennenholtz. In Seventeenth International Symposium on Mathematical Programming (ISMP-00), p. 167, Atlanta, August 2000. Invited oral presentation.

(c)   Other

NO41.   *Understanding Iterative Combinatorial Auction Designs via Multi-Agent Reinforcement Learning.* G. d'Eon✮, N. Newman✮, K. Leyton-Brown. Posted on arXiv as arXiv:2402.19420, 2024.

NO40.   *Rationality Report Cards: Assessing the Economic Rationality of Large Language Models.* N. Raman✮, T. Lundy✮, S. Amouyal, Y. Levine, K. Leyton-Brown, M. Tennenholtz. Posted on arXiv as arXiv:2402.09552, 2024.

NO39.   *Utilitarian Algorithm Configuration.* D. Graham✮, K. Leyton-Brown, T. Roughgarden. Posted on arXiv as arXiv:2310.20401, 2023.

NO38.   ⌧ *Generating Benchmarks for Factuality Evaluation of Language Models.* D. Muhlgay, O. Ram, I. Magar, Y. Levine, N. Ratner, Y. Belinkov, O. Abend, K. Leyton-Brown, A. Shashua, Y. Shoham. Posted on arXiv as arXiv:2307.06908, 2023.

NO37.   ⌧ *Loss Functions for Behavioral Game Theory.* G. d'Eon✮, S. Greenwood✮, K. Leyton-Brown, J. Wright. Posted on arXiv as arXiv:2306.04778, 2023.

NO36.   ⌧ *In-Context Retrieval-Augmented Language Models.* O. Ram, Y. Levine, I. Dalmedigos, D. Muhlgay, A. Shashua, K. Leyton-Brown, Y. Shoham. Posted on arXiv as arXiv:2302.00083, 2023.

NO35.   *Parallel Context Windows Improve In-Context Learning of Large Language Models.* N. Ratner, Y. Levine, Y. Belinkov, O. Ram, O. Abend, E. Karpas, A. Shashua, K. Leyton-Brown, Y. Shoham. Posted on arXiv as arXiv:2212.10947, 2022.

NO34.   *Monte Carlo Forest Search: UNSAT Solver Synthesis via Reinforcement Learning.* C. Cameron✮, J. Hartford✮, T. Lundy✮, T. Truong✮, A. Milligan✮, R. Chen✮, K. Leyton-Brown. Posted on arXiv as arXiv:2211.12581, 2022.

NO33.   *Better Peer Grading Through Bayesian Inference.* H. Zarkoob✮, G. d'Eon✮, L. Podina✮, K. Leyton-Brown. Posted on arXiv as arXiv:2209.01242, 2022.

NO32.   *Formalizing Preferences Over Runtime Distributions.* D. Graham✮, K. Leyton-Brown, T. Roughgarden. Posted on arXiv as arXiv:2205.13028, 2022.

NO31.   ⌧ *MRKL Systems: A modular, neuro-symbolic architecture that combines large language models, external knowledge sources and discrete reasoning.* E. Karpas, O. Abend, Y. Belinkov, B. Lenz, O. Lieber, N. Ratner, Y. Shoham, H. Bata, Y. Levine, K. Leyton-Brown, D. Muhlgay, N. Rozen, E. Schwartz, G. Shachaf, S. Shalev-Shwartz, A. Shashua, M. Tenenholtz. Posted on arXiv as arXiv:2205.00445, 2022.

NO30.   ⌧ *Standing on the Shoulders of Giant Frozen Language Models.* Y. Levine, I. Dalmedigos, O. Ram, Y. Zeldes, D. Jannai, D. Muhlgay, Y. Osin, O. Lieber, B. Lenz, S. Shalev-Shwartz, A. Shashua, K. Leyton-Brown, Y. Shoham. Posted on arXiv as arXiv:2204.10019, 2022.

NO29.   ⌧ *Matching Papers and Reviewers at Large Conferences.* K. Leyton-Brown, Mausam, Y. Nandwani, H. Zarkoob✮, C. Cameron✮, N. Newman✮, D. Raghu. Posted on arXiv as arXiv:2202.12273, 2022.

NO28.   *The Spotlight: A General Method for Discovering Systematic Errors in Deep Learning Models.* G. d'Eon✮, J. d'Eon, J. Wright, K. Leyton-Brown. Posted on arXiv as arXiv:2107.00758, 2021.

NO27. *The Perils of Learning Before Optimizing.* C. Cameron✩, J. Hartford✩, T. Lundy✩, K. Leyton-Brown. Posted on arXiv as arXiv:2106.10349, 2021.

NO26. *Mechanical TA 2: A System for Peer Grading with TA Support.* H. Zarkoob✩, F. Abdolhosseini, K. Leyton-Brown. Posted on arXiv as arXiv:cs/2101.10078, 2021.

NO25. *Exemplar Guided Active Learning.* J. Hartford✩, K. Leyton-Brown, H. Raviv, D. Padnos, S. Lev, B. Lenz. Posted on arXiv as arXiv:cs/2011.01285, 2020.

NO24. *PMI-Masking: Principled masking of correlated spans.* Y. Levine, B. Lenz, O. Lieber, O. Abend, K. Leyton-Brown, M. Tennenholtz, Y. Shoham. Posted on arXiv as arXiv:cs/2010.01825, 2020.

NO23. *Learning under Invariable Bayesian Safety.* G. Bahar, O. Ben-Porat, K. Leyton-Brown, M. Tennenholtz. Posted on arXiv as arXiv:cs/2006.04497, 2020.

NO22. [>10 cites] *Valid Causal Inference with (Some) Invalid Instruments.* J. Hartford✩, V. Veitch, D. Sridhar, K. Leyton-Brown. Posted on arXiv as arXiv:stat/2006.11386, 2020.

NO21. *Smarter Parking: Using AI to Identify Parking Inefficiencies in Vancouver.* D. Graham✩, S. K. Sarraf✩, T. Lundy✩, A. MohammadMehr✩, S. Uppal✩, T. Y. Lee✩, H. Zarkoob✩, S. D. Kominers, K. Leyton-Brown. Posted on arXiv as arXiv:cs/2003.09761, 2020.

NO20. *A Retrospective on the CP 2006 paper "Performance Prediction and Automated Tuning of Randomized and Parametric Algorithms".* F. Hutter, Y. Hamadi, H. Hoos, K. Leyton-Brown. CP Anniversary Volume: a "virtual volume" celebrating the first 25 years of the Constraint Programming (CP) conference by publishing new commentary on the most highly cited paper published in each year. Published online at `https://freuder.wordpress.com/cp-anniversary-project`, 2019.

NO19. [>100 cites] *Auto-WEKA: Combined Selection and Hyperparameter Optimization of Classification Algorithms.* C. Thornton, F. Hutter, H. Hoos, K. Leyton-Brown. Posted on arXiv as arXiv:cs/1208.3719, 2019.

NO18. *Report-Sensitive Spot-Checking in Peer-Grading Systems.* H. Zarkoob✩, H. Fu, K. Leyton-Brown. Posted on arXiv as arXiv:cs/1906.05884, 2019.

NO17. *Procrastinating with Confidence: Near-Optimal, Anytime, Adaptive Algorithm Configuration.* R. Kleinberg, K. Leyton-Brown, B. Lucier, D. Graham✩. Posted on arXiv as arXiv:cs/1902.05454, 2019.

NO16. *Formalizing the Boundary Between Strategic and Nonstrategic Reasoning.* J. Wright, K. Leyton-Brown. Posted on arXiv as arxiv:cs/1812.11571, 2018.

NO15. [>10 cites] *OASC-2017: *Zilla Submission.* C. Cameron✩, H. Hoos, K. Leyton-Brown, F. Hutter. Open Algorithm Selection Challenge, pp. 15–18, 2017.

NO14. [>100 cites] *Artificial Intelligence and Life in 2030.* P. Stone, R. Brooks, E. Brynjolfsson, R. Calo, O. Etzioni, G. Hager, J. Hirschberg, S. Kalyanakrishnan, E. Kamar, S. Kraus, K. Leyton-Brown, D. Parkes, W. Press, A. Saxenian, J. Shah, M. Tambe, A. Teller. One Hundred Year Study on Artificial Intelligence: Report of the 2015-2016 Study Panel, Stanford University, Stanford, CA, 2016.

NO13. *Incentivizing Evaluation via Limited Access to Ground Truth: Peer-Prediction Makes Things Worse.* A. X. Gao✩, J. R. Wright✩, K. Leyton-Brown. Posted on arXiv as arxiv:cs/1612.09596, 2016.

NO12. 🔲 *Counterfactual Prediction with Deep Instrumental Variables Networks.* J. Hartford✩, G. Lewis, K. Leyton-Brown, M. Taddy. Posted on arXiv as arxiv:stat/1606.07042, 2016.

NO11. *ASlib: A Benchmark Library for Algorithm Selection.* B. Bischl, P. Kerschke, L. Kotthoff✩, M. Lindauer, Y. Malitsky, A. Fréchette✩, H. Hoos, F. Hutter✩, K. Leyton-Brown, K. Tierney, J. Vanschoren. Posted on arXiv as arxiv:cs/1506.02465, 2015.

NO10. *The Configurable SAT Solver Challenge (CSSC).* F. Hutter✩, M. Lindauer, A. Balint, S. Bayless, H. Hoos, K. Leyton-Brown. Posted on arXiv as arxiv:cs/1505.01221, 2015.

NO9. 🔲 *ParamILS: An Automatic Algorithm Configuration Framework.* F. Hutter✩, T. Stützle, K. Leyton-Brown, H. Hoos. Posted on arXiv as arxiv:cs/1401.3492, 2014.

NO8. *Bayesian Optimization with Censored Response Data.* F. Hutter✩, H. Hoos, K. Leyton-Brown. Posted on arXiv as arXiv:cs/1310.1947, 2013.

NO7. *Predicting Human Behavior in Unrepeated, Simultaneous-Move Games.* J. Wright✩, K. Leyton-Brown. Posted on arXiv as arXiv:cs/1306.0918, 2013.

NO6. 🔲 *Features for SAT.* L. Xu✩, F. Hutter✩, H. Hoos, K. Leyton-Brown. Posted as a Technical Report at `http://www.cs.ubc.ca/labs/beta/Projects/SATzilla/Report_SAT_features.pdf`, 2012.

NO5. 🔲 *Sequential Model-Based Optimization for General Algorithm Configuration (Extended Version).* F. Hutter✩, H. Hoos, K. Leyton-Brown. (24 pages). University of British Columbia Computer Science Technical Report TR-2010-10 (`https://www.cs.ubc.ca/cgi-bin/tr/2010/TR-2010-10`), October 2010.

NO4. 🔲 *Empirically Evaluating Multiagent Learning Algorithms.* E. Zawadzki✩, A. Lipson✩, K. Leyton-Brown. (40 pages). Posted on arXiv as arXiv:cs/1401.8074, 2008.

NO3. *Collusion in Unrepeated, First-Price Auctions with an Uncertain Number of Participants.* K. Leyton-Brown, M. Tennenholtz, N. Bhat, Y. Shoham. UBC CS Technical Report TR-2008-10, 2008. Posted on arXiv as arXiv:cs/0201017.

NO2. 🔲 *A Tutorial on the Proof of the Existence of Nash Equilibria*, A. Jiang✩ and K. Leyton-Brown, UBC CS Technical Report TR-2007-25, (10 pages), November 2007.

NO1. 🔲 *Resource Allocation in Competitive Multiagent Systems.* K. Leyton-Brown. PhD Thesis, Stanford University, Department of Computer Science. August 2003.

3.   BOOKS

(a)   Authored

B2. 🔲 *Multi-Agent Systems: Algorithmic, Game Theoretic, and Logical Foundations.* Y. Shoham, K. Leyton-Brown. Cambridge University Press, 2009. 504 pages. `http://www.masfoundations.org`.

B1. 🔲 *Essentials of Game Theory.* K. Leyton-Brown, Y. Shoham. Morgan & Claypool Publishers, San Rafael, CA, 2008. 104 pages. `http://www.gtessentials.org`.

(b) Edited Books and Journal Volumes

BE7. *Proceedings of the 24th ACM Conference on Economics and Computation.* K. Leyton-Brown, J. Hartline, L. Samuelson (editors). London, United Kingdom, July 9–12, 2023. 162 papers; 1,188 pages. ACM, New York, USA.

BE6. *Proceedings of the Thirty-Fifth AAAI Conference on Artificial Intelligence.* K. Leyton-Brown, Mausam (editors). Virtual conference, February 2–9, 2021. 18 volumes; 16,128 pages. AAAI Press, Palo Alto, California USA.

BE5. *Special Issue on EC'12, Part 2.* K. Leyton-Brown, P. Ipeirotis. ACM Transactions on Economics and Computation (TEAC), volume 3, issue 2, April 2015.

BE4. *Special Issue on EC'12, Part 1.* K. Leyton-Brown, P. Ipeirotis. ACM Transactions on Economics and Computation (TEAC), volume 3, issue 1, March 2015.

BE3. *Special Issue on Best Papers from 2008 and 2009 ACM Electronic Commerce Conferences.* M. Feldman, K. Leyton-Brown, Games and Economic Behavior (GEB), volume 86, July 2014.

BE2. *Special Issue on Algorithmic Game Theory.* E. Elkind, K. Leyton-Brown. Artificial Intelligence Magazine, volume 31, number 4, 2010.

BE1. *Proceedings of the Thirteenth ACM Conference on Electronic Commerce.* P. Ipeirotis, K. Leyton-Brown (editors). Valencia, Spain, June 4–8, 2012. 73 articles; 1002 pages. ACM, New York, USA.

(c) Chapters

BC9. *Kudu: An Electronic Agricultural Marketplace in Uganda.* N. Newman, N. Immorlica, K. Leyton-Brown, B. Lucier, J. Quinn, R. Ssekibuule. In *Artificial Intelligence for Social Impact*, M. Tambe, F. Fang, B. Wilder (editors), Springer, 2022.

BC8. *Automated Configuration and Selection of SAT Solvers.* H. Hoos, F. Hutter, K. Leyton-Brown. Chapter 12 (pp. 481–507) in *Handbook of Satisfiability, Second Edition*, A. Biere, M. Heule, H. van Maaren, T. Walsh (editors), Volume 336 of Frontiers in Artificial Intelligence and Applications, IOS Press, 2021.

BC7. [>10 cites] *Auto-WEKA: Automatic Model Selection and Hyperparameter Optimization in WEKA.* L. Kotthoff, C. Thornton, H. Hoos, F. Hutter, K. Leyton-Brown. Chapter 4 in *Automated Machine Learning*, F. Hutter, L. Kotthoff, J. Vanschoren (editors), pp. 81–95, Springer, 2019.

BC6. *Selection and Configuration of Parallel Portfolios.* M. Lindauer, H. Hoos, F. Hutter, K. Leyton-Brown. Chapter 15 in *Handbook of Parallel Constraint Reasoning*, Youssef Hamadi, Lakhdar Sais (editors), pp. 581–614, Springer, 2017.

BC5. *Solving the Station Repacking Problem.* A. Fréchette, N. Newman, K. Leyton-Brown. Chapter 38 in *Handbook of Spectrum Auction Design*, M. Bichler and J. K. Goeree (editors), Cambridge University Press, pp. 813–827, 2017.

BC4. *Mechanism Design and Auctions.* K. Leyton-Brown, Y. Shoham. Chapter 7 in *Multiagent Systems*, G. Weiss (editor), pp. 285–327, MIT Press, 2013.

BC3. [>10 cites] *Sequential Model-Based Parameter Optimization: an Experimental Investigation of Automated and Interactive Approaches.* F. Hutter, T. Bartz-Beielstein, H. Hoos, K. Leyton-Brown, K. Murphy. Chapter 15 in *Empirical Methods for the Analysis of Optimization Algorithms*, T. Bartz-Beielstein, M. Chiarandini, L. Paquete, M. Preuss (editors), pp. 361–411. Springer, 2010.

BC2. ⬚ *A Test Suite for Combinatorial Auctions.* K. Leyton-Brown, Y. Shoham. Chapter 18 in *Combinatorial Auctions*, P. Cramton, Y. Shoham, R. Steinberg (editors), pp. 451–478. MIT Press, 2006.

BC1. ⬚ *Empirical Hardness Models for Combinatorial Auctions.* K. Leyton-Brown, E. Nudelman☆, Y. Shoham. Chapter 19 in *Combinatorial Auctions*, P. Cramton, Y. Shoham, R. Steinberg (editors), pp. 479–504. MIT Press, 2006.

4.   PATENTS

5.   SPECIAL COPYRIGHTS

6.   ARTISTIC WORKS, PERFORMANCES, DESIGNS

7.   OTHER WORKS: SOFTWARE RELEASED PUBLICLY

Each symbol ⬚ indicates a link to publicly available software in the PDF version of this document.

S50. **STEER: Systematic and Tuneable Evaluation of Economic Rationality in LLMs** ⬚ (with N. Raman, T. Lundy, S. Amouyal, Y. Levine, M. Tennenholtz) A benchmark distribution that quantitatively scores an LLM's performance on fine-grained "elements of rationality" specified in a custom taxomony. Combined with a user-provided rubric, these can be aggregated into a ?rationality report card?.

S49. **Clock Auction Testbed for Multi-Agent Reinforcement Learning** ⬚ (with G. d'Eon, N. Newman) A highly configurable clock auction environment which serves as a testbed for research on multi-agent reinforcement learning for auctions. Our code exposes many parameters representing possible auction rule changes. It also generates clock-auction game instances and associated bidder values, leveraging a realistic value model from the literature.

S48. **Knuth Synthesis: Monte Carlo Forest Search for SAT** ⬚ (with C. Cameron, J. Hartford, T. Lundy, T. Truong, A. Milligan, R. Chen) Knuth Synthesis learns DPLL branching policies for solving Boolean satisfiability (SAT) problems, with the objective of achieving good average-case performance on a given distribution of unsatisfiable problem instances. It leverages two key ideas to mitigate the costs of policy evaluations in an exponentially-sized tree. First, it estimates tree size by randomly sampling paths and measuring their lengths, drawing on an unbiased approximation due to Knuth (1975). Second, it queries a strong solver at a user-defined depth rather than learning a policy across the whole tree, to focus policy search on early decisions that offer the greatest potential for reducing tree size.

S47. **FACTOR: Factual Assessment via Corpus TransfORmation** ⬚ (with D. Muhlgay, O. Ram, I. Magar, Y. Levine, N. Ratner, Y. Belinkov, O. Abend, A. Shashua, Y. Shoham) A scalable approach for evaluating LM factuality. FACTOR automatically transforms a factual corpus of interest into a benchmark evaluating an LM's propensity to generate true facts from the corpus vs. similar but incorrect statements. We have used our framework to create three benchmarks: Wiki-FACTOR, News-FACTOR and Expert-FACTOR.

S46. **Utilitarian Algorithm Configuration** ⬚ (with D. Graham, T. Roughgarden; 2023) The first nontrivial procedure for configuring heuristic algorithms to maximize the utility provided to their end users while also offering theoretical guarantees about performance. Our code implements our *Utilitarian Procrastination* algorithm and reproduces all plots in our paper.

S45. **Parallel Context Windows for LLMs** ⬚ (with N. Ratner, Y. Levine, Y. Belinkov, O. Ram, O. Abend, E. Karpas, A. Shashua, Y. Shoham; 2023) The code for reproducing the classification experiments on GPT2 models from our paper *Parallel Context Windows Improve In-Context Learning of Large Language Models*.

S44. **Utility Functions for Runtime Distributions** ⬚ (with D. Graham, T. Roughgarden; 2023) The code for reproducing all figures from our paper *Formalizing Preferences Over Runtime Distributions*.

S43. **In-Context Retrieval-Augmented Language Models** ⬚ (with O. Ram, Y. Levine, I. Dalmedigos, D. Muhlgay, A. Shashua, Y. Shoham; 2023) Code and data for reproducing the experiments from our paper In-Context Retrieval-Augmented Language Models, which shows that off-the-shelf general purpose retrievers provide surprisingly large language model gains across model sizes and diverse corpora, and that document retrieval and ranking mechanisms can be specialized to this setting to further boost performance.

S42. **Bayesian Inference for Peer Grading** ☐ (with H. Zarkoob, G. d'Eon, L. Podina; 2023) This software uses Bayesian inference to compute posterior distributions over true assignment grades and grader reliabilities in a multi-week peer-grading setup, optionally leveraging the possibility of trusted TAs, modeling the possibility that students will submit grades without making an effort, and providing a mechanism to correctly handle both input and output as discrete grades from a rubric.

S41. **The Spotlight: Auditing Deep Learning Models to Identify Systematic Biases** ☐ (with G. d'Eon, J. d'Eon, J. Wright; 2022) This software uses a deep model's final-layer embedding to identify contiguous regions of poor performance on a dataset.

S40. **Predict-then-Optimize vs End-to-End Learning** ☐ (with C. Cameron, J. Hartford, T. Lundy; 2022) Formulating real-world optimization problems often begins with making predictions from historical data; typically, learning the prediction model used to generate the optimization problem and solving that problem are performed in two separate stages. Such prediction models can also be learned end-to-end by differentiating through the optimization task. This package contains code for experiments contrasting these two approaches.

S39. **A Modular, Neuro-Symbolic Architecture that Combines Large Language Models, External Knowledge Sources and Discrete Reasoning** ☐ (with E. Karpas, O. Abend, Y. Belinkov, B. Lenz, O. Lieber, N. Ratner, Y. Shoham, H. Bata, Y. Levine, D. Muhlgay, N. Rozen, E. Schwartz, G. Shachaf, S. Shalev-Shwartz, A. Shashua, M. Tenenholtz; 2022) All synthetic data used for the experiments described in the white paper *MRKL Systems: A Modular, Neuro-Symbolic Architecture that Combines Large Language Models, External Knowledge Sources and Discrete Reasoning.*

S38. **Agora** ☐ (with H. Zarkoob, S. Nand, G. Toti; 2021–) Agora facilitates calling on students in class in a more equitable way, with the added benefit that it automatically produces an assessment of each student?s engagement. The key ideas are to give students control over whether their hand is raised or lowered, to choose randomly among students with raised hands, prioritizing those who have not yet spoken, and to give participation credit to all students who were considered every time a speaker is chosen. The system has various other features to facilitate deployment in large classes including multiple queues to support concurrent questions on different topics; a message board to allow students to communicate discretely with the instructor; and polling.

S37. **System for Matching Reviews and Papers at Large Conferences** ☐ (with Mausam, Y. Nandwani, H. Zarkoob, C. Cameron, N. Newman, D. Raghu; 2021–) This system leverages DBLP and Semantic Scholar profiles to infer CoIs; leverages TPMS, ACL, and keywords to score reviewer-paper matchings; defines a mixed-integer program to identify good matchings; and solves it using row and column generation.

S36. **ModeIV: Valid Causal Inference with (Some) Invalid Instruments** ☐ (with J. Hartford, V. Veitch, D. Sridhar; 2021) ModeIV extends DeepIV to perform valid causal inference in the presence of multiple instruments, only some of which are valid, leveraging the assumption that the modal instrument is valid.

S35. **PMI-Masking** ☐ (with Y. Levine, B. Lenz, O. Lieber, O. Abend, M. Tennenholtz, Y. Shoham; 2021.) The masking vocabulary used in our PMI-Masking paper, which introduced a new technique for training masked language models like BERT.

S34. **Predicting Satisfiability End-to-End** ☐ (with C. Cameron, R. Chen, J. Hartford; 2020) This software uses permutation-equivariant deep models to predict the satisfiability status of SAT formulas in raw CNF format.

S33. **FCC Incentive Auction Simulator** ☐ (with N. Newman, P. Milgrom, I. Segal; 2020–22) This simulator of the FCC's 2016–17 Incentive Auction is the most detailed of which we are aware. It permits whole auctions to be run at national scale; includes VHF licenses and ladder constraints; and includes two valuation models, one of which is a novel contribution fit to historical data from the real auction.

S32. **Problem Generator for 5G Network Resource Assignment** ☐ (with C. Cameron, H. Hoos, B. McCormick; 2019) Rather than dedicating hardware to specific network functions, 5G networks will dynamically allocate virtualized functions to servers from a generic pool based on network traffic. This software package generates realistic instances of such 5G network resource allocation problems. Its main achievements are providing a language for encoding-agnostic problem specification; modeling realistic network topologies and network functions; and modeling realistic distributions of network traffic.

S31. **DeepIV: Deep Learning for Counterfactual Prediction** ☐ (with J. Hartford, G. Lewis, M. Taddy; 2017) DeepIV augments deep learning methods to accurately characterize causal relationships in the presence of instrument variables (IVs): sources of treatment randomization that are conditionally independent from the outcomes.

S30. **Gamenet: A Deep Learning Framework for Predicting Human Strategic Behavior** ☐ (with J. Hartford, J. Wright; 2016) Gamenet is an architecture for learning predictive models of boundedly rational human strategic behavior. It significantly improved upon the previous state of the art without needing hand-tuned features developed by domain experts.

S29. **The Positronic Economist: A Computational System for Analyzing Economic Mechanisms** ☐ (with D. Thompson, N. Newman; 2014–2017) Computational mechanism analysis is a recent approach to economic analysis in which a mechanism design setting is analyzed entirely by a computer. For games with non-trivial numbers of players and actions, the approach is only feasible when these games can be encoded compactly. The Positronic Economist is a software system with two parts: (1) a Python-based language for succinctly describing mechanisms; and (2) a system that takes such descriptions as input, automatically identifies computationally useful structure, and produces a compact Action-Graph Game.

S28. **Kudu: an electronic market for agricultural trade in Uganda**

Kudu Mobile App 1.0 ☐ (with N. Newman, L. Carvajal, A. Raina; 2018–2020) The funding for our pilot ended, meaning we could no longer operate a call center. We hence built an Android app that can be used by traders directly. It supports making and browsing active trades; viewing them on a map; filtering them by geographic area, crop, price, quantity, and recency; authenticating phone numbers and calling counterparties.

Kudu Platform 2.0 ☐ (with N. Newman, R. Ssekibuule, J. Quinn; 2017–2018) This substantial rewrite of the platform refocused the market around the operations of a call center that iteratively confirms matches between buyers and sellers in the context of globally optimal allocations, and also included numerous other improvements to the market's operation.

Kudu Platform 1.0 (with R. Ssekibuule, J. Quinn, N. Newman; 2011–2017) This market matches farmers selling crops with traders interested in purchasing them, based on SMS messages from both parties and performing daily market clears.

S27. **ASLib: a Benchmark Library for Algorithm Selection** ☐ (with B. Bischl, P. Kerschke, L. Kotthoff, M. Lindauer, Y. Malitsky, A. Fréchette, H. Hoos, F. Hutter, K. Tierney, J. Vanschoren; 2015–) The algorithm selection community lacks a standard format or repository for test data, making it difficult to share and compare different approaches effectively. This software provides a standardized format for representing algorithm selection scenarios and a repository that contains a growing number of data sets from the literature.

S26. **Mechanical TA: Partially Automated High-Stakes Peer Grading** Mechanical TA differs from many other peer review systems by involving human teaching assistants (TAs) to assure review quality. Human TAs both evaluate the peer reviews of students who have not yet demonstrated reviewing proficiency and spot check the reviews of students who have. Mechanical TA also features "calibration" reviews, allowing students quickly to gain experience with the peer-review process.

Mechanical TA 2.1 ☐ (with H. Zarkoob, L. Podina, G. d'Eon; 2020–) This release reoriented the grade assignment system, the grading of graders, and the spot checking system all to use Bayesian inference approaches rather than simply taking medians as in the previous versions.

Mechanical TA 2.0 (with F. Abdolhosseini, H. Zarkoob, A. Gao, D. Ma; 2017–2019) This release reimplemented MTA in python, making it substantially easier to use, revamping the user interface, and making the platform more easily extensible by others.

Mechanical TA 1.0 ☐ (with J. Wright, C. Thornton, M. Gamis; 2012–2015) The original implementation of MTA was written in PHP, and was designed to support only CPSC 430. We gradually scaled it up to a system that could also be used in other courses and released it publicly in 2015.

S25. **SATFC: a SAT-based feasibility checker for spectrum repacking** ☐ (with N. Newman, A. Fréchette, P. Cernek, E. Chen, G. Saulnier-Comte, N. Arnosti; 2014–2017) SATFC solves radio-spectrum repacking feasibility problems arising in the reverse auction of the FCC's broadcast incentive auction held in 2016. It leverages a SAT formulation, domain-specific heuristics, a parallel portfolio of SAT solvers tuned for the types of instances observed in auction simulations, and a novel caching strategy.

S24. **AutoWEKA: Combined Selection and Hyperparameter Optimization for Machine Learning**

AutoWeka 2.0 ☐ (with L. Kotthoff, F. Hutter, H. Hoos; 2015) This release adds two main features: support for regression algorithms and integration into the WEKA GUI. It also fixes bugs, improves tests and documentation, and updates the software to work with the latest versions of WEKA and Java.

AutoWeka 1.0 (with C. Thornton, F. Hutter, H. Hoos; 2012–2013) Auto-WEKA considers the problem of simultaneously selecting a learning algorithm and setting its hyperparameters, going beyond previous methods that address these issues in isolation. Auto-WEKA does this using a fully automated approach, leveraging recent innovations in Bayesian optimization.

S23. **SMAC: Sequential Model-based Algorithm Configuration** ☐ (with F. Hutter, H. Hoos, K. Murphy, S. Ramage; 2009–2015) Model-based active learning methods for the automatic, black-box configuration of algorithm parameters.

S22. **SATenstein: an automatically configurable local search SAT solver**

SATenstein-2015 ☒ (with P. Cernek, A.R. KhudaBukhsh, H. Hoos; 2015) Updated to include the DCCA and Sparrow SAT solvers, to compile properly on 64-bit machines, and to fix various bugs.

SATenstein-2010 (with A.R. KhudaBukhsh, L. Xu, H. Hoos; 2009–2010) A generalized, highly parameterized solver framework that can be configured to instantiate a broad range of existing high-performance SLS-based SAT solvers, and also over 10^{23} novel algorithms.

S21. **Empirical Performance Models** ☒ (with F. Hutter, L. Xu, H. Hoos; 2014) Empirical performance models can be used to predict the performance of algorithms on previously unseen input, including previously unseen problem instances, previously untested parameter settings, or both.

S20. **Features for Runtime Prediction of Domain-Independent Planners**. ☒ (with C. Fawcett, M. Vallati, F. Hutter, J. Hoffmann, H. Hoos; 2014) A new, extensive set of instance features that facilitate building empirical performance models for the planning domain.

S19. **The Configurable SAT Solver Challenge (CSSC)**

CSSC 2014 ☒ (with F. Hutter, M. Lindauer, S. Bayless, H. Hoos; 2014) CSSC 2014 was a second iteration of the competition. We released results, log files, solvers, incumbents and instance sets.

CSSC 2013 ☒ (with F. Hutter, A. Balint, S. Bayless, H. Hoos; 2013) CSSC 2013 was a competitive event that assessed the peak performance of solvers for the Boolean satisfiability (SAT) problem that accept parameters, recognizing that the value of a SAT solver often comes from its customizability rather than just its performance in a default configuration. We released results, log files, solvers, incumbents and instance sets.

S18. **ACLib: a benchmark library for algorithm configuration** ☒ (with F. Hutter, M. Lopez-Ibanez, C. Fawcett, M. Lindauer, H. Hoos, T. Stützle.; 2013) The algorithm configuration problem is, given a parameterized algorithm A, a set of problem instances S, and a performance metric m (e.g., mean runtime), to find a parameter setting of A that minimizes m across S. AClib defines a set of standard benchmarks for algorithm configuration in order to provide a solid foundation for empirical science in the field.

S17. **HAL: a framework for the automated design and analysis of high-performance algorithms** ☒ (with C. Nell, C. Fawcett, H. Hoos; 2010–2012) An experimental management and analysis platform for empirical algorithmics, particularly targeting meta-algorithmics. HAL has been designed to facilitate the easy and correct use of a broad range of standardized, advanced empirical analysis and design methods; to design and perform computational experiments, including large-scale analysis and design tasks involving substantial amounts of computation on potentially large clusters of machines; and to support the development and critical assessment of novel empirical analysis and design techniques.

S16. **Benchmark Generator for Security Games** ☒ (with M. Jain, M. Tambe; 2012) This Java-based generator allows researchers to generate synthetic security game problems from the computationally hardest region where the deployment-to-saturation ratio is 0.5, for a variety of different problem domains. It also provides tools for computing Strong Stackelberg Equilibria of these games using both GLPK and CPLEX.

S15. **Support Enumeration Method for Nash Equilibrium Computation in Action-Graph Games** (with D. Thompson; S. Leung; 2011–12) A novel method for computing and enumerating Nash equilibria of games encoded concisely in the Action Graph Games representation.

S14. **SATzilla: An algorithm portfolio for the satisfiability problem.**

SATzilla-2012 ☒ (with L. Xu, F. Hutter, J. Shen, H. Hoos; 2012) An updated version of the solver that used a new Java implementation of cost-sensitive decision forests, new features, and new algorithms. It won three tracks in the 2012 SAT Challenge and placed second in the remaining track.

SATzilla-2011 (with L. Xu, F. Hutter, H. Hoos; 2011) A new version of the solver that uses cost-sensitive decision forests rather than linear regression models. It also includes new instance features and new component algorithms. It was the sole entry in the 2011 SAT competition Data Analysis Track.

SATzilla-2009 (with L. Xu, F. Hutter, H. Hoos; 2009) New additions to the software include: prediction of feature computation time; new instance features; new component algorithms. In the 2009 SAT competition it placed 1st in the Industrial (Applications) (sat), Crafted (unsat) and Random (sat+unsat) categories, and 2nd in the Crafted (sat+unsat) and Random (unsat) categories.

SATzilla-2007 (with L. Xu, F. Hutter, H. Hoos; 2007–8) This is a thoroughly updated version of the algorithm portfolio described below, with new techniques and a mostly-new team of collaborators. This algorithm portfolio combines 19 complete and local-search SAT solvers. In the 2007 SAT competition it placed 1st in the Random (sat + unsat), Handmade (sat + unsat) and Handmade (unsat) categories, 2nd in the Handmade (sat) category and 3rd in the Random (unsat) category.

SATzilla-2004 (with E. Nudelman, A. Devkar, Y. Shoham, H.Hoos, 2004) This is an updated version of SATzilla; it included new solvers and local search features. In the 2004 SAT competition, it placed 3rd in both the Crafted (sat + unsat) and Crafted (unsat) categories.

SATzilla-2003 (with E. Nudelman, G. Andrew, C. Gomes, J. McFadden, B. Selman and Y. Shoham, 2002-03) This C++ program uses empirical hardness models to choose among complete SAT solvers and preprocessors (`2clseq` [Bacchus]; `Jerusat` [Nadel]; `Limmat` [Biere]; `OKsolver` [Kullmann]; `relsat` [Bayardo]; `Satz-Rand` [Kautz, Li]; `SATO` [Zhang]; `zChaff` [Zhang]) on a per-instance basis. In the 2003 SAT competition, it placed 2nd in the Random instances track, 2nd in the Handmade instances (satisfiable only) track, and 3rd in the Handmade instances track. SATzilla was the only solver to achieve good performance in more than one track.

S13. **Bayesian Action-Graph Games** ⬀ (with A. Jiang, 2010–2011) An extension of the AGG representation to Bayesian games. The software enables the efficient computation of expected utility and of Bayes–Nash equilibria.

S12. **Hydra: automatically configuring algorithms for portfolio-based selection** ⬀ (with L. Xu, F. Hutter, H. Hoos, 2010) The software automatically builds an algorithm portfolio out of a single, highly-parameterized algorithm, targeting a given instance distribution and performance metric.

S11. **ParamILS: automated algorithm tuning** ⬀ (with F. Hutter, T. Stützle, H. Hoos, 2008–2010) This iterative local search algorithm can be used as an entirely automated approach for tuning an algorithm's parameters to optimize its runtime. We've applied it to state-of-the-art SAT solvers and to CPLEX.

S10. **Action-Graph Games: code and generators** ⬀ (with A. Jiang, N. Bhat; 2007–2010) Action-Graph Games (AGGs) are a compact representation for game theory. This C++ code can be used to compute expected utility in action-graph games, find their Nash equilibria through GAMUT solvers, and generate AGGs for computational experiments.

S9. **Computational Analysis of Position Auctions** ⬀ (with D. Thompson; 2009.) Software for representing position auctions as AGGs and finding their (possibly mixed-strategy) equilibria.

S8. **AGGUI: AGG Graphical User Interface** ⬀ (with D. Bargiacchi, A. Jiang; 2009) AGGUI allows users to create and edit AGGs, read in existing AGGs, and visualize strategy profiles (e.g. Nash equilibria) as a density map on the action graph.

S7. **MALT: A Platform for the Empirical Testing of Multiagent Reinforcement Learning Algorithms** ⬀ (with A. Lipson, E. Zawadzki; 2005, 2008) This is a Matlab program that allows large-scale experimentation with multiagent reinforcement learning algorithms. The platform also supports visualization of the experimental results, and is easily extensible.

S6. **Empirical hardness models** ⬀ (with E. Nudelman, L. Xu, F. Hutter; 2002–2007) This code allows the user to build models that predict an algorithm's runtime based on cheaply-computable features describing a given instance.

S5. **GAMUT: A test suite for game theoretic algorithms** ⬀ (with E. Nudelman, J. Wortman, Y. Shoham; 2004) This is an extensible Java package that generates games from one or more classes described in the game theoretic literature. It is intended to be used as input for the empirical testing of game theoretic algorithms, e.g., computation of Nash equilibria; multiagent reinforcement learning.

S4. **Local Effect Game solver** ⬀ (with M. Tennenholtz, Y. Shoham; 2003) A Java program that allows B-LEGs to be inputted graphically, and that uses myopic best response dynamics to find a pure-strategy Nash equilibrium for the game, or proves that a PSNE does not exist.

S3. **CATS: Combinatorial Auction Test Suite** ⬀ (with M. Pearson, Y. Shoham, E. Zawadzki; 2003,2000) Generators for creating benchmark instances for combinatorial auction winner determination algorithms.

S2. **CAMUS: Combinatorial Auction Multi-Unit Search** ⬀ (with M. Tennenholtz, Y. Shoham; 2000) An algorithm for solving the winner determination problem for multi-unit combinatorial auctions.

S1. **CASS: Combinatorial Auction Structured Search** (with Y. Fujishima, Y. Shoham; 1999) ⬀ An algorithm for solving the winner determination problem for single-unit combinatorial auctions.