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PERSONAL DATA

Education

- Ph.D. (Computer Science), Carnegie Mellon University, Pittsburgh, PA, 2004
    - *Mechanism Design for Computationally Bounded Agents*
- M.S. (Computer Science), Washington University in St Louis, St. Louis, MO, 1999
- B. Sci. Honours (Mathematics), Memorial University of Newfoundland, St. John's, NL, 1997

Professional Experience

- Professor, Cheriton School of Computer Science, University of Waterloo, 2017-present
- Research Scientist, DeepMind, 2019-present
- Associate Professor, Cheriton School of Computer Science, University of Waterloo, 2009-2017
- Invited Professor, School of Computer and Communication Sciences, École Polytechnique Fédérale de Lausanne (EPFL), 2012
    - Sabbatical position
- Assistant Professor, Cheriton School of Computer Science, University of Waterloo, 2004-2009

Awards and Honours

- University Research Chair, University of Waterloo, 2019-present
- University of Waterloo Outstanding Performance Award for 2019
- Pasupalak AI Fellow, University of Waterloo, 2018-present
- Canadian Association of Computer Science/Association d'informatique canadienne (CACS/AIC) Outstanding Young Researcher Prize for 2015
- University of Waterloo Outstanding Performance Award for 2015

- Cheriton Faculty Fellow, Cheriton School of Computer Science, University of Waterloo, 2012-2015

- Early Researcher Award, Ministry of Research and Innovation, Province of Ontario, 2006-2011

- University Medal for Academic Excellence (Mathematics), Memorial University of Newfoundland, 1997

RESEARCH AND SCHOLARSHIP

Areas of Interest

Artificial intelligence and multiagent systems, with a focus on game theoretic models, social choice, preference learning and models of bounded rationality. I am particularly interested in understanding how we can best support cooperation in AI-AI and Human-AI systems.

Publications

When it comes to author-ordering, we usually order by contribution, with student-authors being listed first. Occasionally, we use alphabetical order, and I indicate the papers where we used this convention below. Co-authors who were graduate students at the time the paper was written are marked with (*), PDFs are marked with (**) and undergraduate students are marked with (***).

Journal Articles

- S. Subramanian*, M. Taylor, K. Larson, and M. Crowley, "Multi-Agent Advisor Q-Learning", Journal of Artificial Intelligence Research, Vol 74, pp. 1–74, 2022.

- A. Dafoe, Y. Bachrach, G. Hadfield, E. Horvitz, K. Larson, and T. Graepel, Cooperative AI: Machines must learn to find common ground, *Nature*, 593, 33-36, 2021.

- A. Salehi-Abari and K. Larson, "Group recommendation with noisy subjective preferences", *Computational Intelligence*, Vol 37, Issue 1, pp. 210-225, 2021.

- V. Carvalho*, K. Larson, A. Brandão, and J. Sichman, "Applying Social Choice Theory to Solve Engineering Multi-Objective Optimization Problems", *Journal of Control, Automation and Electrical Systems*, 31, pp. 119-128, 2020.

- A. Salehi-Abari, C. Boutilier, and K. Larson, "Empathetic Decision Making in Social Networks", *Artificial Intelligence*, Vol 275, pp. 174–203, 2019.

- J. Doucette*, H. Hosseini*, A. Tsang*, K. Larson, and R. Cohen, "Inferring True Voting Outcomes in Homophilic Social Networks", *Journal of Autonomous Agents and Multiagent Systems*, Vol 33, Issue 3, pp 298-329, 2019.

- H. Hosseini*, K. Larson, and R. Cohen, " Investigating the Characteristics of One-Sided Matching Mechanisms Under Various Preferences and Risk Attitudes", *Journal of Autonomous Agents and Multiagent Systems*, Vol 32, Issue 4, pp. 534-567, 2018.

- A. Carvalho*, S. Dimitrov, and K. Larson, "On Proper Scoring Rules and Cumulative Prospect Theory", *EURO Journal of Decision Processes*, Vol 6, Issue 3-4, pp.343-376, 2018.

- V. Menon* and K. Larson, "Computational Aspects of Strategic Behaviour in Elections with Top-Truncated Ballots, *Journal of Autonomous Agents and Multiagent Systems*, 31(6), pp. 1506–1547, 2017.

- A. Carvalho*, S. Dimitrov and K. Larson, "Inducing Honest Reporting of Private Information in the Presence of Social Projection", *Decision*, Vol 4(1), pp. 25–51, 2017.

- A. Carvalho*, S. Dimitrov and K. Larson, "How Many Crowdsourced Workers Should a Requester Hire?", *Annals of Mathematics and Artificial Intelligence*, Vol 78(1), pp. 45–72, 2016. Available online doi:10.1007/s10472-015-9492-4.

  A short, early version of this paper appeared in the *Proceedings of the 2014 European Conference on Multiagent Systems (EUMAS 2014)* under the title "A Study on the Influence of the Number of MTurkers on the Quality of the Aggregate Output"

- J. Könemann, K. Larson and D. Steiner*, "Network Bargaining Using Approximate Blocking Sets to Stabilize Unstable Instances", *Theory of Computing Systems*, 57(3), pp. 655-672, 2015. (Authors ordered alphabetically).

  A short early version of this paper appeared in the *Proceedings of the Fifth International Symposium on Algorithmic Game Theory (SAGT 2012)*.

- M. Macko*, K. Larson and L. Steskal, "Braess' Paradox for Flows Over Time", *Theory of Computing Systems*, 53(1), pp. 86-108, 2013.

  A short early version of this paper appeared in the *Proceedings of the Third International Symposium on Algorithmic Game Theory (SAGT 2010)*.

- A. Carvalho* and K. Larson, "Sharing Rewards Among Strangers Based on Peer Evaluations", *Decision Analysis*, 9(3), pp. 253–273, 2012.

- J. Zhang*, R. Cohen and K. Larson, "Combining Trust Modeling and Mechanism Design for Promoting Honesty in e-Marketplaces", *Computational Intelligence*, 28(4), pp. 549–578, 2012.

- S. Stein, E. Gerding, A. Rogers, K. Larson and N. Jennings, "Algorithms and Mechanisms for Procuring Services with Uncertain Durations using Redundancy", *Artificial Intelligence*, 175 (14-15), pp. 2021-2060, 2011.

This paper extended earlier work appearing in the *Proceedings of the Twenty-first International Joint Conference on Artificial Intelligence (IJCAI 2009)* under the title "Flexible Procurement of Services with Uncertain Deadlines" with the same authors, and "Mechanism Design for Task Procurement with Flexible Quality of Service" which appeared as a short paper in the *Proceedings of the Eighth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)* with authors E. Gerding, A. Rogers, K. Larson and N. Jennings.

- I. Rahwan and K. Larson, "Logical Mechanism Design", *Knowledge Engineering Review*, 26:1, pp. 61–69, 2011.

- K. Larson* and T. Sandholm, "Bargaining with Limited Computation: Deliberation Equilibrium", *Artificial Intelligence*, 132(2), pp.183-217, 2001.

    A short early version of this paper appeared in the *Proceedings of the Seventeenth National Conference on Artificial Intelligence (AAAI 2000)* under the title " Deliberation in Equilibrium: Bargaining in Computationally Complex Problems".

- K. Larson* and T. Sandholm, "Anytime Coalition Structure Generation: An Average Case Study", *Journal of Experimental and Theoretical Artificial Intelligence*, (12), 23–42, 2000.

    A short early version of this paper appeared in the *Proceedings of the Third International Conference on Autonomous Agents (AGENTS'99)*.

- T. Sandholm, K. Larson*, M. Andersson*, O. Shehory and F. Tohmé, "Anytime Coalition Structure Generation with Worst Case Guarantees", *Artificial Intelligence*. (111)1–2, 209–238, 1999.

    A short early version of this paper appeared in the *Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI'98)*.

Articles in Refereed Conference Proceedings

- D. Radke*, K. Larson, T. Brecht, and K. Tilbury*, Towards a Better Understanding of Learning with Multiagent Teams, *Thirty-Second International Joint Conference on Artificial Intelligence (IJCAI 2023)*, 2023.

- K. Mehra*, N. Sreenivas*, and K. Larson, Deliberation and Voting in Approval-Based Multi-Winner Elections, *Thirty-Second International Joint Conference on Artificial Intelligence (IJCAI 2023)*, 2023.

- S. Subramanian, M. E. Taylor, K. Larson, and M. Crowley, Learning from Multiple Independent Advisors in Multi-agent Reinforcement Learning, *Twenty Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)*, 2023.

- A. Sarkar, K. Larson, and K. Czarnecki, Revealed Multi-Objective Utility Aggregation in Human Driving, *Twenty Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)*, 2023.

- D. Radke*, K. Larson, T. Brecht, The Importance of Credo in Multiagent Learning, *Twenty Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023)*, 2023.

- B. Armstrong*, S. Heffetz*, K. Larson and N. Talmon, How Should We Vote? - A Comparison of Voting Systems within Social Networks, *Thirty-First International Joint Conference on Artificial Intelligence (IJCAI 2022)*

- D. Radke*, K. Larson, and T. Brecht, Exploring the Benefits of Teams in Multiagent Learning, *Thirty-First International Joint Conference on Artificial Intelligence (IJCAI 2022)*

- A. Sarkar*, K. Larson, and K. Czarnecki, "Generalized dynamic cognitive hierarchy models for strategic driving behavior", Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI-22)

- T. Ma**, V. Menon*, and K. Larson, Improving Welfare in One-sided Matching using Simple Threshold Queries, *30th International Joint Conference on Artificial Intelligence (IJCAI 2021)*, 2021.

- D. Radke*, O. Abari, T. Brecht, and K. Larson, Can Future Wireless Networks Detect Fires?, *7th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation*, 2020.

- G. d'Eon* and K. Larson, Testing Axioms Against Human Reward Divisions in Cooperative Games, *Nineteenth International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2020)*, pp. 312-320.

- M. Schaekermann*, G. Beaton*, E. Sanoubari*, A. Lim, K. Larson, and E. Law, Ambiguity-aware AI Assistants for Medical Data Analysis, *2020 ACM Conference on Human Factors in Computing Systems (CHI'20)*,

- G. d'Eon*, J. Goh, K. Larson, and E. Law, "Paying Crowd Workers for Collaborative Work", *22nd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)* , 2019.

- M. Schaekermann*, G. Beaton*, M. Habib, A. Lim, K. Larson, and E. Law, "Understanding Expert Disagreement in Medical Data Analysis through Structured Adjudication", *22nd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)* , 2019.

- V. Menon* and K. Larson, "Mechanism Design for Locating a Facility under Partial Information", *12th International Symposium on Algorithmic Game Theory (SAGT 2019)*, pp. 49-62.

- H. Hosseini and K. Larson, "Multiple Assignment Problems under Lexicographic Preferences", *The 18th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2019)*, May 2019, pp. 837-845.

- V. Menon* and K. Larson, "Robust and Approximately Stable Marriages under Partial Information", *The 14th Conference on Web and Internet Economics (WINE 2018)*, pp. 341-355, 2018.

- M. Schaekermann*, J. Goh, K. Larson, and E. Law, "Resolvable vs. Irresolvable Disagreement: A Study on Worker Deliberation in Crowd Work", *The 21st ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2018)*.

    – **Winner of CSCW 2018 Best Paper award**

- A. Tsang*, A. Salehi-Abari**, and K. Larson, 2018, "Boundedly Rational Voters in Large(r) Networks", *Proceedings of the Seventeenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2018)*, pp. 301-308, 2018.

- V. Menon* and K. Larson, 2017, "Deterministic, Strategyproof, and Fair Cake Cutting", *26th International Joint Conference on Artificial Intelligence (IJCAI-17)*, pp. 352–358, 2017.

- S. Pan*, K. Larson, J. Bradshaw*** and E. Law, "Dynamic Task Allocation Algorithm for Hiring Workers that Learn", *Proceedings of the Twenty-Fifth International Joint Conference on Artificial Intelligence (IJCAI'16)*, pp. 3825–3831 July 2016.

- A. Tsang* and K. Larson, "The Echo Chamber: Strategic Voting and Homophily in Social Networks", *Proceedings of the Fifteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2016)*, pp. 368-375, May, 2016.

- H. Hosseini*, K. Larson and R. Cohen, "Investigating the Characteristics of One-Sided Matching Mechanisms: (Extended Abstract)", *Proceedings of the Fifteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2016)*, pp. 1443-1444, May, 2016.

    This is a short paper. A longer version of the work was presented in *EXPLORE-2016: The Third Workshop on Exploring Beyond the Worst Case in Computational Social Choice*, May 2016.

- V. Menon* and K. Larson, "Reinstating Combinatorial Protections for Manipulation and Bribery in Single-Peaked and Nearly Single-Peaked Electorates", *Proceedings of the Thirtieth AAAI Conference on Artificial Intelligence (AAAI-2016)*, pp. 565-571, February 2016.

- A. Pat*, K. Larson and S. Keshav, "Big-Data Mechanisms and Energy Policy Design", *Proceedings of the Thirtieth AAAI Conference on Artificial Intelligence (AAAI-2016)*, pp. 3887-3893, February 2016.

- H. Hosseini*, K. Larson and R. Cohen, "Matching with Dynamic Ordinal Preferences", *Proceedings of the Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI 2015)*, pp. 936-943, January 2015.

- J. Doucette*, K. Larson and R. Cohen, "Conventional Machine Learning for Social Choice", *Proceedings of the Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI 2015)*, pp. 858-864, January 2015.

- H. Xu* and K. Larson, "Improving the Efficiency of Crowdsourcing Contests", *Proceedings of the Thirteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2014)*, pp. 461-468, May 2014.

- A. Tsang* and K. Larson, "Opinion Dynamics of Skeptical Agents", *Proceedings of the Thirteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2014)*, pp. 277-284, May 2014.

- A. Carvalho* and K. Larson, "A Consensual Linear Opinion Pool", *Proceedings of the Twenty-Third International Joint Conference on Artificial Intelligence (IJCAI 2013)*, pp. 2518–2524, August 2013.

- A. Tsang*, K. Larson and R. McAlpine, "Resource Sharing for Control of Wildland Fires", *Proceedings of the Twenty-Seventh AAAI Conference on Artificial Intelligence (AAAI 2013)*, pp. 1355–1361, July 2013.

- S. Branzei*, T. Michalak, T. Rahwan, K. Larson and N. Jennings, "Matchings with Externalities and Attitudes", *Proceedings of the Twelfth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2013)*, pp. 295–302, May 2013.

- M. Weingert*** and K. Larson, "TrailView: Combining Gamification and Voting Mechanisms for Useful Data Collection", *Proceedings of the First AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2013)*, November 2013 (Short Paper).

- T. K. Wijaya*, K. Larson and K. Aberer, "Matching Demand with Supply in the Smart Grid Using Agent-Based Multiunit Auctions", *Proceedings of the Fifth International Conference on Communication Systems and Networks (COMSNETS 2013)*, pp. 1-6, January 2013.

- S. Branzei* and K. Larson, "Social Distance Games", *Proceedings of the Twenty-Second International Joint Conference on Artificial Intelligence (IJCAI 2011)*, pp. 91–96, July 2011.

  An early version appeared as an extended abstract in the *Tenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2011)*.

- A. Carvalho* and K. Larson, "A Truth Serum for Sharing Rewards", *Proceedings of the Tenth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2011)*, pp. 635–642, May 2011.

- G. Hines* and K. Larson, "Efficiently Eliciting Preferences From a Group of Users", *Proceedings of the Second International Conference on Algorithmic Decision Theory (ADT'11)*, pp 96-107, October 2011.

- G. Hines* and K. Larson, "Preference Elicitation for Risky Prospects", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 889-896, May 2010.

- Z. Rabinovich, L. Dufton*, K. Larson, and N. Jennings, "Cultivating Desired Behavior: Policy Teaching Via Environment-Dynamics Tweaks", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 1097–1104, May 2010.

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- S. Stein, E. Gerding, A. Rogers, K. Larson, N. Jennings, "Scalable Mechanism Design for the Procurement of Services with Uncertain Durations", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 649–656, May 2010.

- A. Carvalho* and K. Larson, "Sharing a Reward Based on Peer Evaluations", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 1455–1456, May 2010 (Extended Abstract).

- D. Loker* and K. Larson, "Parameterizing the Winner Determination Problem for Combinatorial Auctions", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 1483–1484, May 2010 (Extended Abstract).

- D. Loker* and K. Larson, "An Investigation of Representations of Combinatorial Auctions", *Proceedings of the Ninth Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010)*, pp. 1481–1482, May 2010 (Extended Abstract).

- S. Pan*** K. Larson, and I. Rahwan, "Argumentation Mechanism Design for Preferred Semantics", *Proceedings of the Third International Conference on Computational Models of Argument (COMMA 2010)*, pp. 403-414, September 2010.

- I. Rahwan, K. Larson and F. Tohmé, "Characterisations of Strategy-Proofness for Grounded Semantics ", *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligene (IJCAI 2009)*, pp. 251-256, July 2009.

- S. Branzei*** and K. Larson, "Coalitional Affinity Games and the Stability Gap", *Twenty-First International Joint Conference on Artificial Intelligence*, pp. 79-85, July 2009.

  An early version appeared as extended abstract in the *Eighth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009)*.

- G. Kastidou*, K. Larson and R. Cohen, "Exchanging Reputation Information Between Communities: A Payment-Function Approach", *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI 2009)*, pp. 195-200, July 2009.

- G. Hines* and K. Larson, "Insuring Risk Averse Agents", *Proceedings of the First International Conference on Algorithmic Decision Theory (ADT 2009)*, pp.294-305, October 2009.

- J. Clark*, U. Hengartner and K. Larson, "Not-So Hidden Information: Optimal Contracts for Undue Influence in E2E Voting Systems", *Proceedings of the Second International Conference on E-Voting and Identity*, pp. 1-17, September 2009.

- I. Rahwan and K. Larson, "Pareto Optimality in Abstract Argumentation", *Proceedings of the Twenty-Third AAAI Conference on Artificial Intelligence (AAAI 2008)*, pp. 150-155, July 2008.

- I. Rahwan and K. Larson, "Mechanism Design for Abstract Argumentation", *Proceedings of the Seventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2008)*, pp. 1031-1038, May 2008.

- G. Hines* and K. Larson, "Using Adaptive Consultation of Experts to Improve Convergence Rates in Multiagent Learning", *Proceedings of the Seventh International Conference on Autonomous Agents and Multiagent Systems*, pp. 1337-1340, May 2008 (Extended Abstract).

- G. Hines* and K. Larson, "Learning When to Take Advice: A Statistical Test for Acheiving a Correlated Equilibria", *Proceedings of the Twenty-Fourth Conference on Uncertainty in Artifical Intelligence (UAI 2008)*, pp. 274-281, July 2008.

- K. Larson, "Reducing Costly Information Acquisition in Auctions", *Proceedings of the Fifth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2006)*, pp.1167-1174, May 2006.

- K. Larson and T. Sandholm, "Mechanism Design and Deliberative Agents", *Proceedings of the Fourth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2005)*, pp. 650-656, July 2005.

- K. Larson* and T. Sandholm, "Experiments on Deliberation Equilibria in Auctions", *Proceedings of the Third International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2004)*, pp. 394-401, July 2004.

- K. Larson* and T. Sandholm, "Using Performance Profile Trees to Improve Deliberation Control", *Proceedings of the Nineteenth AAAI Conference on Artificial Intelligence (AAAI 2004)*, pp .73-79, July 2004.

- K. Larson* and T. Sandholm, "Miscomputing Ratio: The Social Cost of Selfish Computing", *Proceedings of the Second International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2003)*, pp. 273-280, July 2003.

- K. Larson* and T. Sandholm, "An Alternating Offers Bargaining Model for Computationally Limited Agents", *Proceedings of the First International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2002)*, pp. 135-142, July 2002.

- K. Larson* and T. Sandholm, "Costly Valuation Computation in Auctions", *Proceedings of the Eighth Conference on Theoretical Aspects of Rationality and Knowledge (TARK 2001)*, pp. 169-182, July 2001.

Chapters in Books

- I. Rahwan and K. Larson, "Argumentation and Game Theory", In I. Rahwan and G. R. Simari (Eds.), *Argumentation in Artificial Intelligence*, Springer, 2009.

- J. Shew* and K. Larson, "The Blind Leading the Blind: A Third-Party Model for Bilateral Multi-issue Negotiation under Incomplete Information", In T. Ito, M. Zhang, V. Robu, S. Fatima and T. Matsuo (Eds.), *Advances in Agent-Based Complex Automated Negotiations*, Springer, 2009.

Other Publications

Peer Reviewed Workshops

- D. Radke*, K. Larson, and T. Brecht, "The Importance of Credo in Multiagent Learning", 2022 Workshop on Adaptive and Learning Agents (ALA 2022), May 2022.

- A. Sarkar*, K. Larson, and K. Czarnecki, "A taxonomy of strategic human interactions in traffic conflicts.", Workshop on Cooperative AI, NeurIPS 2021

- B. Armstrong* and K. Larson, "Machine Learning to Strengthen Democracy", *NeurIPS Joint Workshop on AI for Social Good*, December 2019.

- G. d'Eon*, K. Larson, and E. Law, " The Effects of Single-Player Coalitions on Reward Divisions in Cooperative Games", *GAIW: Games, Agents, and Incentives Workshop*, May 2019.

- M. Schaekermann*, G. Beaton, M. Habib, A. Lim, K. Larson, and E. Law, 2019, "crowdEEG: A Platform for Structured Consensus Formation in Medical Time Series Analysis", *Workgroup on Interactive Systems in Healthcare (WISH@CHI)*, May 2019.

- M. Schaekermann*, G. Beaton, M. Habib, A. Lim, K. Larson, and E. Law, 2019, "Capturing Expert Arguments from Medical Adjudication Discussions in a Machine-readable Format", *2nd Workshop on Subjectivity, Ambiguity and Disagreement in Crowdsourcing.*, May 2019.

- M. Schaekermann*, E. Law, K. Larson, and A. Lim, 2018, "Expert Disagreement in Sequential Labeling: A Case Study on Adjudication in Medical Time Series Analysis", *1st Workshop on Subjectivity, Ambiguity and Disagreement in Crowdsourcing at HCOMP 2018.*, July 2018.

- H. Hosseini and K. Larson, 2018, "Strategyproof Quota Mechanisms for Multiple Assignment Problems", *Seventh International Workshop on Computational Social Choice (COMSOC-2018)*, Poster Presentation, June 2018.

- B. Armstrong* and K. Larson, 2017, Approval in the Echo Chamber, *4th Workshop on Exploring Beyond the Worst Case in Computational Social Choice*, May 2017.

- A. Tsang* and K. Larson, 2017, If you like it, then you shoulda put a sticker on it: A Model for Strategic Timing in Voting ,*4th Workshop on Exploring Beyond the Worst Case in Computational Social Choice*, May 2017.

- J. Drummond*, A. Borodin and K. Larson, "Natural Interviewing Equilibria for Stable Matching", *Sixth International Workshop on Computational Social Choice (COMSOC 2016)*, Toulouse, France, June 2016.

- J. Doucette*, A. Tsang*, H. Hosseini*, K. Larson and R. Cohen, "Voting with Social Networks: Truth Springs from Argument Amongst Friends", *EXPLORE 2015: Second Workshop on Exploring Beyond the Worst Case in Computational Social Choice*, May 2015.

- L. Dufton* and K. Larson, "Randomized Room Assignment-Rent Division", *IJCAI-2011 Workshop on Social Choice and Artificial Intelligence (WSCAI-2011)*, Barcelona, July 2011.

- L. Dufton* and K. Larson, "Multiagent Policy Teaching", *Second International Workshop on Optimisation in Multiagent Systems (OPTMAS 2009)*, Budapest, May 2009.

- E. Gerding, K. Larson and N. Jennings, "Eliciting Expert Advice in Service-Oriented Computing", *Eleventh International Workshop on Agent-Mediated Electronic Commerce (AMEC 2009)*, Budapest, May 2009.

- G. Kastidou*, R. Cohen and K. Larson, "A Graph-based Approach for Promoting Honesty in Community-based Multiagent Systems", *The Eighth Workshop on Coordination, Organizations, Institutions, and Norms in Agent Systems*, Pasadena, CA, July 2009.

- K. Larson and I. Rahwan, "Welfare Properties of Argumentation-Based Semantics", *Second International Workshop on Computational Social Choice (COMSOC 2008)*, Liverpool, UK, September 2008.

- J. Zhang*, K. Larson and R. Cohen, "Theoretical Validation and Extended Experimental Support for a Trust-Based Incentive Mechanism for E-Marketplaces", *Eleventh International Workshop on Trust in Agent Societies*, Estoril, Portugal, May 2008. Extended version appeared in *Lecture Notes in Computer Science 5396*, Springer, pp. 135–161 2008.

- Y. Zhang* and K. Larson, "Reducing Interaction Cost: A Mechanism Design Approach", *Agent Mediated Electronic Commerce IX*, Honolulu, Hawaii, May 2007. Extended version appeared in *Lecture Notes in Business Information Processing 13*, pp. 166–181, Springer, 2009.

- M. Karsten, Y. Lin*, and K. Larson, "Incentive-Compatible Differentiated Scheduling", *Fourth Workshop on Hot Topics in Networks (HotNets-IV)*, College Park, MD, November 2005.

- S.Esmaeilsabzali* and K. Larson, "Service Allocation for Composite Web Services Based on Quality Attributes", *The First IEEE International Workshop on Service Oriented Solutions for Cooperative Organizations (SoS4CO '05)*, Munich, Germany, July 2005, pp. 71–79.

Peer Reviewed Research Letters

- A. Carvalho*, S. Dimitrov and K. Larson, "The Output-Agreement Method Induces Honest Behavior in the Presence of Social Projection", *SIGecom Exchanges*, 13(1), pp. 77–81, 2014.

- E. Fourquet*, K. Larson, W. Cowan, "A Reputation Mechanism for Layered Communities", *SIGecom Exchanges*, Vol 6.1, pp. 11-22, 2006.

Working Papers and Technical Reports

- A Dafoe, E Hughes, Y Bachrach, T Collins, KR McKee, JZ Leibo, K Larson, T. Graepel, Open Problems in Cooperative AI, *arXiv preprint arXiv:2012.08630*, 2021.

- V. Menon* and K. Larson, Algorithmic Stability in Fair Allocation of Indivisible Goods Among Two Agents, *arXiv preprint arXiv:2007.15203*, 2020.

- A. Tsang*, K. Larson and R. McAlpine, "Sharing of Fire Fighting Resources", Cheriton School of Computer Science, University of Waterloo Technical Report CS-2012-11, 2012.

- M. Lerman* and K. Larson, "Internalization on the Toronto Stock Exchange", Cheriton School of Computer Science, University of Waterloo Technical Report CS-2007-45, 2007.

- G. Hines* and K. Larson, "Improving Convergence Rates in Multiagent Learning Through Experts and Adaptive Consultation", Cheriton School of Computer Science, University of Waterloo Technical Report CS-2007-24, 2007.

Grant Record

Year	Amount	Granting Agency/Organization
2019	$ 32,000	Microsoft, AI for Social Good
2018-2023	$ 48,000 per year	Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
2013-2018	$30,000 per year	Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
2011-2012	$20,000	Canadian Interagency Forest Fire Centre
2008-2013	$24,500 per year	Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant
2006-2011	$150,000	Ministry of Research and Innovation, Province of Ontario Early Research Award (also listed under Awards)
2006-2010	$957, 758	Canadian Foundation for Innovation (CFI) New Opportunities Grant (PI: Kevin Hare)
2007	$10,000	TD Newcrest
2007	$13,500	Ontario Centres of Excellence Interact Grant
2005-2008	$24,000 per year	Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant

Teaching Activities

Courses Taught in the Last Five Years

Academic Year	Course	Class Size	Notes
2019	*Introduction to Artificial Intelligence (CS486/686)*	161	2 Sections
2017-2018	*Introduction to Artificial Intelligence (CS486/686)*	97	1 Section
2016-2017	*Introduction to Artificial Intelligence (CS486/686)*	153	2 Sections
	Multiagent Systems (CS86)	14	
2015-2016	*Introduction to Artificial Intelligence (CS486/686)*	142	2 Sections
	(Undergraduate Course)		
2014-2015	*Introduction to Artificial Intelligence (CS486/686)*	78	
	(Undergraduate Course)		
	Multiagent Systems (CS886)	21	
	(Graduate Course)		
2013-2014	*Introduction to Artificial Intelligence (CS 486/686)*	89	
	(Undergraduate Course)		
2012-2013	*Foundations of Social Computing (CS 886)*	28	
2011-2012	*Multiagent Systems*	7	Taught at EPFL
	(Graduate Course)		
	Introduction to Artificial Intelligence (CS 486/686)	71	
	(Undergraduate Course)		
	Multiagent Systems (CS886)	31	
	(Graduate Course)		

Curriculum Development

CS 486/686 Introduction to Artificial Intelligence: Course Coordinator 2015-present.

Thesis Supervision

PhD Students

Nanda Sreenivas PhD (University of Waterloo) 2021-present

- Co-supervised with Robin Cohen

Marvin Pafla PhD (University of Waterloo) 2020-Present

Co-supervised with Mark Hancock (Department of Management Science, University of Waterloo)

Dave Radke PhD (University of Waterloo) 2019-Present

Co-supervised with Tim Brecht

Ben Armstrong PhD (University of Waterloo) 2018-Present

Valerie Platsko PhD (University of Waterloo) 2018-Present

Sriram Subramanian PhD (University of Waterloo), 2018-2022, *Multiagent Reinforcement Learning in Large Complex Environments*

Co-supervised with Mark Crowley (Electrical and Computer Engineering, University of Waterloo)
Winner of the Canadian Artificial Intelligence (CAIAC) Best Doctoral Dissertation Award

Vijay Menon PhD (University of Waterloo), 2016-2021 *Making Decisions with Incomplete and Inaccurate Information*

Mike Schaekermann PhD (University of Waterloo), 2016-2020, *Human-AI Interaction in the Presence of Ambiguity: From Deliberation-based Labeling to Ambiguity-aware AI*

Co-supervised with Edith Law (Cheriton School of Computer Science, University of Waterloo)
Winner of the Cheriton Distinguished Dissertation Award
Winner of the CS-Can/Info-Can Distinguished Disseration Award

Alan Tsang PhD (University of Waterloo), 2011-2017, *Social Choice in Social Networks*

Joanna Drummond PhD (University of Toronto), 2014-2017, *Stable Matching with Generalized Preference Assumptions: Algorithmic and Incentive Compatibility Challenges*

Co-supervised with Allan Borodin (Department of Computer Science, University of Toronto)

Hadi Hosseini PhD (University of Waterloo), 2013-2016, *Incentives in One-Sided Matching Problems with Ordinal Preferences*

Co-supervised with Robin Cohen (Cheriton School of Computer Science, University of Waterloo)

Arthur Carvalho PhD (University of Waterloo), 2010-2014, *Advancements in the Elicitation and Aggregation of Private Information*

Co-supervised with Stanko Dimitrov (Department of Management Science, University of Waterloo)

Lachlan Dufton PhD (University of Waterloo), 2008-2013, *Stochastic Mechanisms for Truthfulness and Budget Balance in Computational Social Choice*

Greg Hines PhD (University of Waterloo), 2007-2011, *A Study of Preference Elicitation Under Uncertainty*

Georgia Kastidou PhD (University of Waterloo), 2009-2010, *Trust-Based Incentive Mechanisms for Community-Based Multiagent Systems*

Co-supervised with Robin Cohen (Cheriton School of Computer Science, University of Waterloo)

MMath Students

Wei Hu MMath (University of Waterloo), 2021-current

Kanav Mehta MMath (University of Waterloo), 2021-current

Greg d'Eon MMath (University of Waterloo), 2017-2019, *Applying Fair Reward Divisions to Collaborative Work*

- Co-supervised with Edith Law (Cheriton School of Computer Science, University of Waterloo)

Adam Schunk MMath (University of Waterloo), 2017-2019, *An Analysis on The Network Structure of Influential Communities in Twitter*

Ben Armstrong MMath (University of Waterloo), 2016- 2018, *Coordination in a Peer Production Platform: A study of Reddit's /r/Place Experiment*

Vijay Menon MMath (University of Waterloo), 2015-2016, *Computational Aspects of Strategic Behaviour in Elections with Top-Truncated Ballots*

Shengying Pan MMath (University of Waterloo), 2013-2016, *Dynamic Crowdsourcing Consensus Tasks with Workers That Can Learn*

Ankit Pat MMath (University of Waterloo), 2013-2016, *Towards Data-Leveraged Behavioural Policy Design for Alleviating Peak Electricity Demand*

Co-supervised with S. Keshav (Cheriton School of Computer Science, University of Waterloo)

David Steiner MMath (University of Waterloo), 2009-2012, *Network Bargaining: Creating Stability Using Blocking Sets*

Co-supervised with Jochen Könemann (Department of Combinatorics and Optimization, University of Waterloo)

Yuxin Yu MMath (University of Waterloo), 2009-2011, *Mechanisms for Dynamic Settings with Restricted Allocations*

Simina Branzei MMath (University of Waterloo), 2010-2011, *Contributions to Network Formation and Matching*

Simina received the *Outstanding Achievement in Graduate Studies Award* for her MMath work.

Arthur Carvalho MMath (University of Waterloo), 2009-2010, *Sharing Rewards Based on Subjective Opinions*

Yonglian (Derek) Wang MMath (University of Waterloo), 2008-2010, *Matching Rules and Market Share in an Electronic Trading Platform*

James Shew MMath (University of Waterloo), 2006-2008, *Guidance Under Uncertainty: Employing a Mediator Framework in Bilateral Incomplete-Information Negotiations*

David Loker MMath (University of Waterloo), 2007, *Representations and Parameterizations of Combinatorial Auctions*

    Co-supervised by Naomi Nishimura (Cheriton School of Computer Science, University of Waterloo)

Yunqi Zhang MMath (University of Waterloo), 2006-2007, *Reducing Communication Cost: A Mechanism Design Approach*

Greg Hines MMath (University of Waterloo), 2005-2007, *Improving Convergence Rates in Multiagent Learning Through Experts and Adaptive Consultation*

Other Student Supervision

Thomas Ma NSERC Undergraduate Research Assistant, 2020

Michael Weingert Undergraduate Research, 2013

Martin Macko Visiting PhD Student from Comenius University, Slovakia, 2009

Shengying Pan NSERC Undergraduate Research Assistant, 2009

Ryan Schimpel NSERC Undergraduate Research Assistant, 2008

Simina Branzei Undergraduate Research, 2008

Martin Kiefel Studienarbeit, Exchange Student from Universität Karlsruhe, 2008

Michael Lerman MMath Essay, *Internalization on the TSX*, 2007

Tyler Lu Undergraduate Research, 2007

Alexander Radke Studienarbeit, Exchange Student from Universität Mannheim, 2006

Jordan Stinson Undergraduate Research, 2006

Thesis Examination

External PhD Thesis Examiner

Year	Name	Degree	University
2021	Ekaterina Kudashkina	PhD	University of Guelph
2018	Andrew Perreault	PhD	University of Toronto
2018	Zehong Hu	PhD	Nanyang Technological University
2016	Amirali Salehi-Abari	PhD	University of Toronto
2013	Richard Gibson	PhD	University of Alberta
2012	Sofia Ceppi	PhD	Politecnico di Milano
2012	Ludek Cigler	PhD	École Polytechnique Fédérale de Lausanne
2012	Brammert Ottens	PhD	École Polytechnique Fédérale de Lausanne

University of Waterloo PhD Thesis Committee

Year	Name	Degree	Department
2023	Charupriya Sharma	PhD	Computer Science
2022	Atrisha Sarkar	PhD	Computer Science
2021	Justin Toth	PhD	Combinatorics and Optimization
2020	Ivana Kajic	PhD	Computer Science
2018	Michael Cormier	PhD	Computer Science
2016	AdedamolaAdepetu	PhD	Computer Science
2016	John Doucette	PhD	Computer Science
2015	Linda Farczasi	PhD	Combinatorics and Optimization
2013	Reid Kerr	PhD	Computer Science
2013	Mohsen Nader Tehrani	PhD	Electrical and Computer Engineering
2009	Jie Zhang	PhD	Computer Science
2009	Jamshid Abouei	PhD	Electrical and Computer Engineering

University of Waterloo Masters Reader

Year	Name	Degree	Department
2022	Haripriya Pulyassary	MMath	Combinatorics and Optimization
2022	Maizi Liao	MASC	Electrical and Computer Engineering
2021	Alexander van de Kleut	MMath	Computer Science
2021	Maximilian Kahn	MMath	Computer Science
2021	Owain Hamid	MASC	Systems Design Engineering
2020	Colin Vandenhof	MMath	Computer Science
2020	Alexandre Parmentier	MMath	Computer Science
2020	Gaurav Gupta	MMath	Computer Science
2019	Pardis Zohouri	MASC	Electrical and Computer Engineering
2018	Sriram Subramnian	MASC	Electrical and Computer Engineering
2017	Dan Wang	MMath	Computer Science
2016	Josh Jung	MMath	Computer Science
2015	Han Zhao	MMath	Computer Science
2015	Ian Dimock	MMath	Computational Mathematics (Project)
2013	Michael Cormier	MMath	Computer Science
2013	Noel Sardana	MMath	Computer Science
2011	Joshua Gorner	MMath	Computer Science
2007	Dimitri Mostinski	MMath	Computer Science
2007	Michael Jiang	MASc	Electrical and Computer Engineering
2007	David Wheatley	MMath	Combinatorics and Optimization
2007	Reid Kerr	MMath	Computer Science
2006	Kevin Regan	MMath	Computer Science
2005	Michael Yu-Kae Cheng	MMath	Computer Science

Service

Cheriton School of Computer Science

Period	Name	Role
2020-2022	Director of Undergraduate Studies	
2016-2018	Associate Director of Undergraduate Studies	
2015-2016	School Advisory Committee on Appointments	Member
2015-2016	"Mini" School Advisory Committee on Appointments (lecturer positions)	Member
2015-2016	Graduate Advocate	
2015	Women in Computer Science Committee	Member
2013	Women in Computer Science Committee	Member and Chair (7/2013-12/2013)
2009-2010	Awards Committee	Member
2009-2010	TA Assignment Committee	Member
2009-2010	Undergraduate Recruiting Committee	Member
2009-2010	Women in Computer Science Committee	Member
2008-2009	Outreach Committee	Member
2007-2010	Graduate Advocate	
2007-2008	Undergraduate Academic Plans Committee	Member
2007-2008	Women in Computer Science Committee	Member
2007-2008	Teaching Assistants Committee	Member
2007	Instructional Support Group Hiring Committee	Member
2005-2007	Undergraduate Recruiting Committee	Member
2005-2006	Undergraduate Academic Plans Committee	Member
2004-2005	Web Committee	Member

University of Waterloo

Period	Name	Role
2009-2010	Senate	Faculty of Mathematics Representative
2009-2010	Senate Nominating Committee for Honorary Degrees	Member

Professional Activities

Society Memberships and Positions Held

Member of the IJCAI Board of Trustees (2022-current)

Board member for the Computing Research Association (CRA) (2017-current)

Board Member of CS-Can/Info-Can (2017-2021)

Vice-President

Member of the International Foundation for Autonomous Agents and Multiagent Systems (IFAAMAS) Board of Directors, 2010-2016.

Secretary: 2011-2013

President: 2013-2015

Councilor of the Association of the Advancement of Artificial Intelligence (AAAI), 2011-2014.

Member of the Association of Trading Agents Research Board of Directors, 2010-2015

Editorial Positions

Editor in Chief

Journal of Autonomous Agents and Multiagent Systems (with Michael Luck (2020-2022)/Michael Winikoff (2022-present)) (2020-present)

Associate Editor

Journal of Artificial Intelligence Research (JAIR) (2016-2019)

Artificial Intelligence (2016-2021)

ACM Transactions on Economics and Computation

Editorial Board

Journal of Autonomous Agents and Multiagent Systems (2010-2019)

Artificial Intelligence (2013-2016)

Computational Intelligence (2013-2017)

Journal of Artificial Intelligence Research (2013-2016)

Conference and Workshop Organization

Program Co-Chair Journal Track, IJCAI 2022

Program Co-Chair Blue Sky Track, AAMAS 2022

General Co-Chair Sixteenth International Conference on Autonomous Agents and Multiagent Systems (AA-MAS 2017), Sao Paulo, May 2017.

Program Co-Chair 2015 SIGAI Career Network and Conference (co-located with AAAI 2015), Austin, TX, January 2015.

Chair 2013 Ontario Celebration of Women in Computing (ONCWIC 2013), Waterloo, Canada, November 2013.

Tutorials Chair Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2010), Toronto, May 2010.

Program Chair 2010 Workshop on Trading Agent Design and Analysis (TADA 2010), Boston, MA, June 2010.

Doctoral Mentoring Co-Chair Sixth International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2007), Honolulu, May 2007.

Program Committees

Area Chair

International Joint Conference on Artificial Intelligence: IJCAI 2018, 2020, 2021

AAAI Conference on Artificial Intelligence (AAAI): AAAI 2019, 2020, 2021, 2023

International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2020, 2021

Senior Program Committees

International Conference on Autonomous Agents and Multiagent Systems (AAMAS): 2019, 2018, 2016, 2015, 2012, 2011, 2008, 2006

AAAI Conference on Artificial Intelligence (AAAI): 2017

International Joint Conference on Artificial Intelligence (IJCAI): 2016, 2015, 2013, 2011

ACM Conference on Economics and Computation (ACM EC) (formally known as the ACM Conference on Electronic Commerce): 2016, 2014

AAAI Conference on Human Computation and Crowdsourcing (HCOMP): 2019

Program Committees (Conferences)

I have not made a note of the years, but I have typically served multiple years on the program committees of the conferences listed below.

International Conference on Machine Learning (ICML)

NeurIPS

The Web Conference (Previously known as WWW)

International Conference on Principles and Practice of Multiagent Systems (PRIMA)

Canadian Conference on Artificial Intelligence (CAI)

Conference on Auctions, Market Mechanisms and Their Applications (AMMA)

Conference on Web and Internet Economics (WINE).