Daniel J. Lizotte

Curriculum Vitae

Computer Science | Epidemiology & Biostatistics
The University of Western Ontario
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Research Interests

Machine Learning for Health Informatics with a focus on predictive models and decision support. Methodological interests include reinforcement learning with multiple outcomes, predictive models for heterogeneous populations and health equity.

Academic Appointments

Assistant Professor at the University of Western Ontario 2015-Present
Department of Computer Science, Faculty of Science
Department of Epidemiology & Biostatistics, Schulich School of Medicine & Dentistry
Cross-appointments:
Department of Statistical and Actuarial Sciences
Schulich Interfaculty Program in Public Health

Assistant Professor at the University of Waterloo 2011-2014
David R. Cheriton School of Computer Science, Faculty of Mathematics

Postdoctoral Fellow at the University of Michigan 2008-2011
Department of Statistics, College of Literature, Science, and the Arts
Population Studies Center, Institute for Social Research

Affiliate and Adjunct Appointments

Vector Faculty Affiliate 2019-2021
Vector Institute

Adjunct Assistant Professor at the University of Waterloo 2019-2021
School of Public Health and Health Services

Education

Ph.D. in Computing Science, University of Alberta 2008
M.Sc. in Computing Science, University of Alberta 2003
B.C.S. University of New Brunswick 2001

Research Grants

Western Interdisciplinary Development Initiative 2021-2022
Co-Investigator with lead Dr. Luke Stark
$25,000 for Automating (In)justice: Real-World Social Impacts of AI Governance in Canada and Around the World

Western Interdisciplinary Development Initiative 2021-2022
Co-Investigator with lead Dr. Jane Thornton
$25,000 for Western Research Hub for Physical Activity and Health

NSPIRE-PHC Applied Health Research Question (AHRQ) 2020-2021
Co-Principal Investigator with J. Kueper, Dr. A. Terry
$36,166 for Creating an Action Plan for the Use of Artificial Intelligence: COVID-19 Pandemic and Recovery in Primary Health Care in Ontario.

CIFAR AI and COVID-19 Catalyst Grant 2020-2021
Collaborator with lead Dr. Alona Fyshe
$15 000 over 1 year (extended) for "Tracking Mental Health During the Coronavirus Pandemic"

Fields Institute Workshop Grant 2020-2021
Co-Organizer with Drs. Alona Fyshe and Ted Parson
$15 000 over 1 year (extended) for "The Second Summer Institute on AI and Society"

Western Research Catalyst Grant 2020-2021
Co-Investigator with lead Dr. Jacob Shelley
$50 000 over 1 year for "Ethical, legal, and policy dimensions of scaling back social distancing and restrictive public health measures for the COVID-19 pandemic"

CIHR Planning and Dissemination Grant 2019-2020
Principal Investigator
$24 950 over 2 years for "Beyond Supervised Learning: Artificial Intelligence Tools to Help Public Health Stakeholders Serve Marginalized Populations"

NSERC Engage 2019
Principal Investigator, industry collaboration with PointClickCare
$25 000 over 6 months for "Predictive modelling methodology for longitudinal data in long-term care"

CIFAR AI & Society Call for Workshops 2018-2019
Co-Applicant with Drs. Alona Fyshe (P.I.) and Ted Parson
$50 000 over 1 year for "The Summer Institute for the Societal Impacts of AI"

NSERC Discovery Grant 2018-2024
Principal Investigator
$28 000/year for "Machine learning methodology for sequential decision support from large-scale longitudinal data"

CIHR Planning and Dissemination Grant 2018-2019
Co-Applicant with Principal Applicant Dr. Merrick Zwarenstein
$19 933 for "Artificial Intelligence for Screening and Secondary Prevention of Chronic Kidney Disease in a Learning Health System in Ontario (LeHSOn-AI)"

NSERC Engage 2017
Principal Investigator, industry collaboration with RightBlue Labs
$25 000 over 6 months for "Data-driven prediction of mental health risk"

Western Strategic Support for CIHR Success 2017
Principal Investigator
$23 000 over 2 years for "Rapid analysis of social media data to augment surveillance of foodborne disease outbreaks"

Ontario Research Fund - Research Excellence (Round 8) 2016
Co-Investigator with Principal Investigator Dr. Richard Kim
$100 000 of $1.45 million over 5 years for "Pharmacogenomics Technologies and Patient-Centred Approaches for Enhancing Drug Safety and Effectiveness"

CIHR Project Grant 2017
Co-Applicant with Principal Investigator Dr. Kelly Anderson
$720 000 over 3 years for "Understanding the Role of the Family Physician in Early Psychosis Intervention: A Mixed Methods Study"

CIHR Project Grant 2017
Co-Applicant with Principal Investigator Dr. Manuel Montero-Odasso
$967 725 over 5 years for "Gait as a clinical marker to predict progression to dementia syndromes in mild cognitive impairment"

UWO Interdisciplinary Development Initiatives 2016

Participant with Dr. K. Shoemaker (Director) and others
$200 000 over 3 years for "The Smart, Healthy Campus," a data-driven mental health initiative

Canadian Frailty Network Catalyst Grant Program 2016–2017
Co-investigator with Principal Investigator Dr. Cheryl Forchuk and others
$100 000 for "TELEPROM-G: A Study Evaluating Access and Care Delivery of Telehealth Services Among Community-Based Seniors"

NSERC Discovery Grant 2012-2018
Principal Investigator
$22 000/year for "Machine learning for non-myopic decision support and knowledge discovery"

GRAND National Centre of Excellence Project PLATFORM2:CONFIG 2014-2015
co-Investigator with Principal Investigators Drs. M. Müller (Alberta) , H. Hoos (UBC)
$8 648 for "Optimizing CPLEX for Medical Decision Making Problems"

Canada Foundation for Innovation - Leaders Opportunity Fund 2013
co-Principal Investigator Drs. Jesse Hoey and Pascal Poupart (Waterloo)
Total $442 330 from all sources for "Computational Health Informatics Lab Infrastructure"

AWARDS

Izaak Walton Killam Memorial Scholarship 2005–2007
This is the most prestigious graduate award administered by the University of Alberta.

Ralph Steinhauer Award of Distinction 2005
This award recognizes academic achievement of students studying in Alberta.

NSERC Post Graduate Scholarship B 2003–2005

NSERC Post Graduate Scholarship A 2001–2003

University of New Brunswick 2001
Computer Science Prize for Best Undergraduate Honours Thesis

Lieutenant Governor of New Brunswick Silver Medal 2001
This award is for the highest cumulative grade point average in Computer Science.

PUBLICATIONS

Journal Articles

[1] Mayuri Mahendran, Daniel Lizotte, Yayuan Zhu, and Greta R. Bauer. Describing intersectional health outcomes: An evaluation of data analysis methods. *Epidemiology*, 2022. Accepted; scheduled May 2022., [Impact Factor: 4.822].

[2] Chris Brogly, Michael A Bauer, Daniel J Lizotte, MacLean L Press, Arlene MacDougall, Mark Speechley, Erin Huner, Marc Mitchell, Kelly K Anderson, and Eva Pila. An app-based surveillance system for undergraduate students' mental health during the COVID-19 pandemic: Protocol for a prospective cohort study. *JMIR Res Protoc*, 10(9):e30504, Sep 2021.

[3] Maede S. Nouri, Daniel J. Lizotte, Kamran Sedig, and Sheikh S. Abdullah. Visemure: A visual analytics system for making sense of multimorbidity using electronic medical record data. *Data*, 6(8), 2021.

[4] Greta R. Bauer, Siobhan M. Churchill, Mayuri Mahendran, Chantel Walwyn, Daniel Lizotte, and Alma Angelica Villa-Rueda. Intersectionality in quantitative research: A systematic review of its emergence and applications of theory and methods. *SSM - Population Health*, page 100798, 2021. Online.

*Directly-supervised trainees are underlined.

[5] Moutasem A. Zakkar and Daniel J. Lizotte. Analyzing patient stories on social media using text analytics. *Journal of Healthcare Informatics Research*, March 2021. https://doi.org/10.1007/s41666-021-00097-5.

[6] Jason E. Black, Jacqueline K. Kueper, Amanda L. Terry, and Daniel J. Lizotte. Development of a prognostic prediction model to estimate the risk of multiple chronic diseases: Constructing a copula-based model using Canadian primary care electronic medical record data. *International Journal of Population Data Science*, 6(1):1–18, January 2021.

[7] Greta Bauer and Daniel J. Lizotte. Artificial intelligence, intersectionality, and the future of public health. *American Journal of Public Health*, 111(1), January 2021. Opinion Editorial (Peer reviewed), [Impact Factor: 6.464].

[8] Jacqueline K. Kueper, Daniel J. Lizotte, Manuel Montero-Odasso, and Mark Speechley. Cognition and motor function: The gait and cognition pooled index. *PLOS ONE*, 15(9):1–16, 2020. [Impact Factor: 2.740].

[9] Nicole Schoer, Rebecca Rodrigues, Jennifer Reid, Bridget L. Ryan, Daniel J. Lizotte, Richard Booth, Arlene G. MacDougall, Paul Kurdyak, and Kelly K. Anderson. Patterns of primary care use prior to a first diagnosis of non-affective psychotic disorder in Ontario, Canada. *Canadian Journal of Psychiatry*, pages 1–12, 2020. doi:10.1177/0706743720961732, [Impact Factor: 3.313].

[10] Danica Facca, Maxwell Smith, Jacob Shelley, Daniel J. Lizotte, and Lorie Donelle. Exploring the ethical issues in research using digital data collection strategies with minors: A scoping review. *PLOS ONE*, 15(8):1:17, 2020. [Impact Factor: 2.740].

[11] Kathryn Nicholson, Tine de Burghgraeve, Martin Fortin, Lauren Griffith, Silvan Licher, Dan Lizotte, Frances Mair, Ruben Miozzo, Maede Sadat Nouri, Bridget Ryan, Eng Sing Lee, Susan Smith, Moira Stewart, Amanda Terry, Mayra Tisminetzky, Maria Ukhanova, Stephen Wetmore, and Saverio Stranges. Advancing cross-national planning and partnership: Proceedings from the international multimorbidity symposium 2019. *Journal of Comorbidity*, 10:1–6, 2020.

[12] Sheikh S. Abdullah, Neda Rostamzadeh, Kamran Sedig, Daniel J. Lizotte, Amit X. Garg, and Eric McArthur. Machine learning for identifying medication-associated acute kidney injury. *Informatics*, 7(2):18, May 2020.

[13] Jason E. Black, Amanda L. Terry, and Daniel J. Lizotte. Development and evaluation of an osteoarthritis risk model for integration into primary care health information technology. *International Journal of Medical Informatics*, 141:104160, 2020. [Impact Factor: 2.731].

[14] Jacqueline Kueper, Amanda Terry, Merrick Zwarenstein, and Daniel J. Lizotte. Artificial Intelligence and primary care research: A scoping review. *The Annals of Family Medicine*, 18:250–258, May 2020. [Impact Factor: 6.092].

[15] Lavanya Uruthiramoorthy, Daniel Lizotte, Monali Malvankar, Cindy Hutnik, and Kathy Speechley. Estimating patient-reported outcomes for glaucoma management: Cross-sectional study. *Journal of Evidence-Based Medicine*, 13:8–16, 2020. [Impact Factor: 1.00].

[16] Markus Gulilat, Denise Keller, Bradley Linton, Pananos, A. Demetri, Daniel Lizotte, George K. Dresser, Jeffrey Alfonsi, Rommel G. Tirona, Richard B. Kim, and Ute I. Schwarz. Drug interactions and pharmacogenetic factors contribute to variation in apixaban concentration in atrial fibrillation patients in routine care. *Journal of*

Thrombosis and Thrombolysis, 49(2):294–303, Feb 2020. [Impact Factor: 2.941].

[17] Carter W. Lim, Vlad Diaconita, Eddie Liu, Nicholas Ault, Daniel Lizotte, Mary Nguyen, and Cindy M.L. Hutnik. Effect of 6-week washout period on intraocular pressure following chronic prostaglandin analogue treatment: a randomized controlled trial. *Canadian Journal of Ophthalmology*, 55(2):143 – 151, 2020. [Impact Factor: 1.305].

[18] Daniel J. Lizotte, Mayuri Mahendran, Siobhan M. Churchill, and Greta R. Bauer. Math versus meaning in MAIHDA: A commentary on multilevel statistical models for quantitative intersectionality. *Social Science & Medicine*, 245:112500, 2020. [Impact Factor: 3.087].

[19] Davis, Brent D., Kamran Sedig, and Daniel J. Lizotte. Archetype-based modeling and search of social media. *Big Data and Cognitive Computing*, 3(3), 2019.

[20] Emma Farago, Shrikant Chinchalkar, Daniel J. Lizotte, and Ana Luisa Trejos. Development of an EMG-based muscle health model for elbow trauma patients. *Sensors*, 19(15), 2019. [Impact Factor: 2.677].

[21] Eliseos J. Mucaki, Jonathan Z. L. Zhao, Daniel J. Lizotte, and Peter K. Rogan. Predicting response to platin chemotherapy agents with biochemically-inspired machine learning. *Signal Transduction and Targeted Therapy*, 4(1):1–12, 2019. [Impact Factor: 5.873].

[22] Thomas Akdeniz, Daniel J. Lizotte, and Nasser Abukhdeir. A generalised shapelet-based method for analysis of nanostructured surface imaging. *Nanotechnology*, 30(7):1–9, 2018. [Impact Factor: 3.399].

[23] Kelly K. Anderson, Suzanne Archie, Richard G. Booth, Chiachen Cheng, Daniel Lizotte, Arlene G. MacDougall, Ross M. G. Norman, Bridget L. Ryan, Amanda L. Terry, Rebecca Rodrigues, and et al. Understanding the role of the family physician in early psychosis intervention. *BJPsych Open*, 4(6):447–453, 2018.

[24] Laura E. Jansen, Wendy A. Teft, Rhiannon V. Rose, Daniel J. Lizotte, and Richard B. Kim. CYP2D6 genotype and endoxifen plasma concentration do not predict hot flash severity during tamoxifen therapy. *Breast Cancer Research and Treatment*, 171(3):701–708, Oct 2018. [Impact Factor: 3.471].

[25] Daniel J. Lizotte and Arezoo Tahmasebi. Prediction and tolerance intervals for Dynamic Treatment Regimes. *Statistical Methods in Medical Research*, 26(4):1611–1629, 2017. [Impact Factor: 2.388].

[26] Markus Gulilat, Anthony Tang, Steven E. Gryn, Peter Leong-Sit, Allan C. Skanes, Jeffrey E. Alfonsi, George K. Dresser, Sara L. Henderson, Rhiannon V. Rose, Daniel J. Lizotte, Wendy A. Teft, Ute I. Schwarz, Rommel G. Tirona, and Richard B. Kim. Interpatient variation in rivaroxaban and apixaban plasma concentrations in routine care. *Canadian Journal of Cardiology*, 33(8):1036–1043, 2017. [Impact Factor: 5.592].

[27] Daniel J. Lizotte and Eric B. Laber. Multi-objective Markov decision processes for data-driven decision support. *Journal of Machine Learning Research*, 17(211):1–28, 2016. [Impact Factor: 4.091].

[28] Suderman, Robert, Daniel J. Lizotte, and Nasser Mohieddin Abukhdeir. Theory and application of shapelets to the analysis of surface self-assembly imaging. *Phys. Rev. E*, 91:033307, Mar 2015. [Impact Factor: 2.353].

[29] E. B. Laber, D. J. Lizotte, M. Qian, W. E. Pelham, and S. A. Murphy. Dynamic

treatment regimes: technical challenges and applications. *Electronic Journal of Statistics*, 8(1):1225–1272, 2014. [Impact Factor: 1.529].

[30] George Zhu, Daniel J. Lizotte, and Jesse Hoey. Scalable approximate policies for Markov decision process models of hospital elective admissions. *Artificial Intelligence in Medicine*, 61(1):21–34, May 2014. [Impact Factor: 3.574].

[31] Eric B. Laber, Daniel J. Lizotte, and Bradley Ferguson. Set-valued dynamic treatment regimes for competing outcomes. *Biometrics*, 70(1):53–61, March 2014. [Impact Factor: 1.755].

[32] Luiza Antonie, Kris Inwood, Daniel J. Lizotte, and J. Andrew Ross. Tracking people over time in 19th century Canada for longitudinal analysis. *Machine Learning*, 95:129–146, 2013. [Impact Factor: 2.809].

[33] Daniel J. Lizotte, Michael Bowling, and Susan A. Murphy. Linear fitted-Q iteration with multiple reward functions. *Journal of Machine Learning Research*, 13:3253–3295, Nov 2012. [Impact Factor: 4.091].

[34] Daniel Almirall, Daniel J. Lizotte, and Susan A. Murphy. Comment on "Evaluation of Viable Dynamic Treatment Regimes in a Sequentially Randomized Trial of Advanced Prostate Cancer" by L. Wang, A. Rotnitzky, X. Lin, R. E. Millikan and P. F. Thall. *Journal of the American Statistical Association, Applications and Case Studies*, 107(498):509–512, 2012.

[35] Daniel Lizotte, Russell Greiner, and Dale Schuurmans. An experimental methodology for response surface optimization methods. *The Journal of Global Optimization*, 53(4):699–736, 2012.

[36] Susan Shortreed, Eric Laber, Daniel Lizotte, T. Stroup, Joelle Pineau, and Susan Murphy. Informing sequential clinical decision-making through reinforcement learning: an empirical study. *Machine Learning*, 84:109–136, 2011. [Impact Factor: 2.809].

[37] Ruth E. Shaw, Lawrence E. Garey, and Daniel J. Lizotte. A parallel numerical algorithm for Fredholm integro-differential two-point boundary value problems. *The International Journal of Computer Mathematics*, 77:305–318, 2000. [Impact Factor: 1.196].

Refereed Conferences - Full Papers

[38] Pananos, A. Demetri and Daniel J. Lizotte. Comparisons between Hamiltonian Monte Carlo and maximum a posteriori for a Bayesian model for apixaban induction dose & dose personalization. In Finale Doshi-Velez, Jim Fackler, Ken Jung, David Kale, Rajesh Ranganath, Byron Wallace, and Jenna Wiens, editors, *Proceedings of the 5th Machine Learning for Healthcare Conference*, volume 126 of *Proceedings of Machine Learning Research*, pages 397–417, Virtual, 07–08 Aug 2020. PMLR. [Acceptance Rate: 35%].

[39] Maria Jahja and Daniel J. Lizotte. Visualizing clinical significance with prediction and tolerance regions. In Finale Doshi-Velez, Jim Fackler, David Kale, Rajesh Ranganath, Byron Wallace, and Jenna Wiens, editors, *Proceedings of the 2nd Machine Learning for Healthcare Conference*, volume 68 of *Proceedings of Machine Learning Research*, pages 217–230, Boston, Massachusetts, 18–19 Aug 2017. PMLR. [Acceptance Rate: 33%].

[40] Rhiannon V. Rose and Daniel J. Lizotte. gLOP: the global and Local penalty for capturing predictive heterogeneity. In Finale Doshi-Velez, Jim Fackler, David Kale, Byron Wallace, and Jenna Wiens, editors, *Proceedings of the 1st Machine Learning for Healthcare Conference*, volume 56 of *JMLR Workshop and Conference Proceedings*, 2016. 8 pages, [Acceptance Rate: 33%].

[41] Michael Cormier, Daniel J. Lizotte, and Richard Mann. Reconstruction of 3-D density functions from few projections: Structural assumptions for graceful degradation. In *12th Conference on Computer and Robot Vision*, pages 147–154, 2015. [Acceptance Rate: 27% (for oral presentations)].

[42] Adedamola Adepetu, Elnaz Rezaei, Daniel Lizotte, and Srinivasan Keshav. Critiquing time-of-use pricing in Ontario. In *IEEE SmartGridComm Symposium*, pages 223–228. IEEE Press, 2013. [Acceptance Rate: 40%].

[43] Tameem Adel, Ruth Urner, Benn Smith, Daniel Stashuk, and Daniel J. Lizotte. Generative multiple-instance learning models for quantitative electromyography. In Ann Nicholson and Padhraic Smyth, editors, *Proceedings of the 29th conference on Uncertainty in Artificial Intelligence (UAI)*, pages 2–11, Corvallis, Oregon, 2013. AUAI Press. Selected for oral oresentation, [Acceptance Rate: 31%].

[44] Rayman Preet Singh, Peter Xiang Gao, and Daniel J. Lizotte. On hourly home peak load prediction. In *IEEE SmartGridComm Symposium*, pages 163–168. IEEE Press, 2012. Best Paper Award, [Acceptance Rate: 44%].

[45] A. Khan, J.A. Doucette, R. Cohen, and D.J. Lizotte. Integrating machine learning into a medical decision support system to address the problem of missing patient data. In *11th International Conference on Machine Learning and Applications (ICMLA)*, volume 1, pages 454–457, Dec. 2012. [Acceptance Rate: 37%].

[46] Shehroz S. Khan, Jesse Hoey, and Daniel Lizotte. Bayesian multiple imputation approaches for one-class classification. In Leila Kosseim and Diana Inkpen, editors, *Advances in Artificial Intelligence*, volume 7310 of *Lecture Notes in Computer Science*, pages 331–336. Springer, 2012. [Acceptance Rate: 29%].

[47] Daniel J. Lizotte. Convergent fitted value iteration with linear function approximation. In J. Shawe-Taylor, R.S. Zemel, P. Bartlett, F.C.N. Pereira, and K.Q. Weinberger, editors, *Advances in Neural Information Processing Systems 24*, pages 2537–2545. NIPS Foundation, 2011. [Acceptance Rate: 22%].

[48] Daniel J. Lizotte, Michael Bowling, and Susan A. Murphy. Efficient reinforcement learning with multiple reward functions for randomized clinical trial analysis. In *Proceedings of the 27th International Conference on Machine Learning (ICML)*, pages 695–702, 2010. [Acceptance Rate: 26%].

[49] Tao Wang, Daniel Lizotte, Michael Bowling, and Dale Schuurmans. Stable dual dynamic programming. In *Advances in Neural Information Processing Systems (NIPS)*, pages 713–720, 2007. [Acceptance Rate: 22%].

[50] Daniel Lizotte, Tao Wang, Michael Bowling, and Dale Schuurmans. Automatic gait optimization with Gaussian process regression. In *Proceedings of the 20th International Joint Conference on Artificial Intelligence (IJCAI)*, pages 944–949, 2007. [Acceptance Rate: 35%].

[51] Qin Wang, Colin Cherry, Daniel Lizotte, and Dale Schuurmans. Improved large margin dependency parsing via local constraints and Laplacian regularization. In *Proceedings of the Tenth Conference on Computational Natural Language Learning (CONLL-06)*, pages 21–28, 2006. [Acceptance Rate: 35%].

[52] Tao Wang, Daniel Lizotte, Michael Bowling, and Dale Schuurmans. Bayesian sparse sampling for on-line reward optimization. In *Proceedings of the 22nd International Conference on Machine Learning (ICML)*, pages 961–968, 2005. [Acceptance Rate: 27%].

[53] Omid Madani, Daniel Lizotte, and Russell Greiner. Active model selection. In

Proceedings of the 20th conference on Uncertainty in Artificial Intelligence (UAI), pages 357–365, 2004. [Acceptance Rate: 30%].

[54] Daniel Lizotte, Omid Madani, and Russell Greiner. Budgeted learning of naïve-Bayes classifiers. In *19th Conference on Uncertainty in Artificial Intelligence (UAI)*, pages 378–385, 2003. [Acceptance Rate: 33%].

[55] Daniel Lizotte and Hong Zhang. Trading confidence for communications. In *IEEE International Conference on Systems, Man and Cybernetics (SMC)*, volume 1, pages 935–940, 2004.

[56] Daniel Lizotte, Eric Aubanel, and Virendra Bhavsar. Chapter 12: Nonuniform DFT applications in MRI: Parallel algorithms and implementations on the IBM SP. In Robert D. Kent and Todd W. Sands, editors, *High Performance Computing Systems and Applications*, pages 41–54, Norwell, MA, 2003. Kluwer Academic Publishers.

[57] Daniel Lizotte, Lawrence Garey, and Ruth Shaw. A parallel numerical algorithm for boundary-value FIDEs on a PC cluster. In *Proceedings of the International Parallel and Distributed Processing Symposium (IPDPS)*, pages 397–402, 2002. [Acceptance Rate: 38%].

Refereed Conferences - Abstracts

[58] Jaky Kueper, Dan Lizotte, Amanda Terry, Judith Brown, Bridget Ryan, Leslie Meredith, Janet Dang, Moira Stewart, Merrick Zwarenstein, Daniel Leger, and Scott McKay. Identifying priorities for artificial intelligence and primary care in Ontario: A multi-stakeholder engagement event. In *2021 North American Primary Care Research Group Annual Meeting*, November 2021. Oral presentation.

[59] Amanda Terry, Dan Lizotte, Judith Brown, Bridget Ryan, Jaky Kueper, Leslie Meredith, Janet Dang, Moira Stewart, Merrick Zwarenstein, Daniel Leger, and Scott McKay. Is primary health care ready for artificial intelligence? Stakeholder perspectives: Worth the risk as long as you do it well. In *2021 North American Primary Care Research Group Annual Meeting*, November 2021. Oral presentation.

[60] M Mahendran, G Bauer, D Lizotte, and Y Zhu. Evaluating quantitative methods for intercategorical-intersectionality research: a simulation study. *European Journal of Public Health*, 30(Supplement 5), 09 2020. ckaa165.745.

[61] Jacqueline K. Kueper, Amanda L. Terry, Merrick Zwarenstein, and Daniel J. Lizotte. A scoping review on artificial intelligence and primary care: Where is the research field now and where does it need to go? In *Proceedings of the 2019 North American Primary Care Research Group Annual Meeting*, November 2019. Oral presentation.

[62] Jacqueline K. Kueper, Jennifer Rayner, Amanda L. Terry, Amit Garg, Danielle M Nash, Erin Huner, Judy Belle Brown, Merrick Zwarenstein, Richard Booth, and Daniel J. Lizotte. Impact of social determinants of health information on predictive models for chronic kidney disease in primary health care. In *Proceedings of the 40th Annual North American Meeting of the Society for Medical Decision Making*, 2018.

[63] Jason Black, Daniel J. Lizotte, and Amanda L. Terry. Framr-emr: Framework for prognostic predictive model development using electronic medical record data with a case study in osteoarthritis risk. In *Proceedings of the 2017 North American Primary Care Research Group Annual Meeting*, 2017.

[64] Maria Jahja and Daniel J. Lizotte. Prediction regions and tolerance regions for multi-objective markov decision processes. In *Proceedings of the 3rd Multidisciplinary*

Conference on Reinforcement Learning and Decision Making, 2017. 4-page extended abstract.

[65] Kueper, J K, D J Lizotte, M Montero-Odasso, and M Speechley. Cognition and motor function: A novel outcome measure for studies of pre-dementia syndromes. In *Canadian Society of Epidemiology and Biostatistics 2017 Conference: From Molecules to Population*, 2017.

[66] Lavanya Uruthiramoorthy, Daniel J. Lizotte, Monali Malvankar, and Cindy Hutnik. Predicting important patient domains for glaucoma management. In *Canadian Society of Epidemiology and Biostatistics 2017 Conference: From Molecules to Population*, 2017.

[67] Cheryl Forchuk, Marnin Heisel, Tony O'Regan, Akshya Vasudev, Amer Burhan, Anne Skelton, Richard Booth, Wafa'a Ta'an, Jeffrey Hoch, Abraham Rudnick, Daniel Lizotte, and Jeffrey Reiss. Teleprom-g a study evaluating access and care delivery of telehealth services among community-based seniors. In *Future Technologies Conference*, 2017.

[68] Katherina Baranova, Eliseos Mucaki, Dimo Angelov, Daniel J. Lizotte, and Peter Rogan. Cisplatin response prediction in recurrent bladder cancer using biochemically-inspired machine learning. In *Great Lakes Bioinformatics and Canadian Computational Biology Conference*, 2016.

[69] Daniel J. Lizotte. Multi-objective markov decision processes for decision support. In *Proceedings of the 2nd Multidisciplinary Conference on Reinforcement Learning and Decision Making*, 2015. 4-page extended abstract.

Book Chapters

[70] Marie Davidian, Brian Everitt, Ron S. Kenett, Geert Molenberghs, Walter Piegorsch, and Fabrizio Ruggeri, editors. *Wiley StatsRef*, chapter Reinforcement Learning. Wiley, 2017. 3000 words.

Commentaries

[71] Edward (Ted) A. Parson, Alona Fyshe, and Dan Lizotte. Artificial intelligence's societal impacts, governance, and ethics. Technical Report No. 19-44, UCLA School of Law, Public Law Research Paper, September 2019. Available at SSRN: https://ssrn.com/abstract=3476399.

Educational Cases in Public Health

[72] S.L. Sibbald, J.R. Graham, and D.J. Lizotte. Development of an electronic health record strategy at the Glenburn public health unit. In S.L. Sibbald and G. McKinley, editors, *Western Public Health Casebook*. Public Health Casebook Publishing, London, ON, 2019.

Theses

[73] Daniel Lizotte. *Practical Bayesian optimization*. PhD thesis, U. of Alberta, 2008.

[74] Daniel Lizotte. Budgeted learning of naïve Bayes classifiers. Master's thesis, University of Alberta, 2003.

Workshops, Presentations, and Tutorials

Structured Treatment Spaces in Dynamic Treatment Regimes 2021
Contributed talk at the Statistics 2021 Canada Conference
Montreal, QC, Canada (virtual)

Bayesian Pharmacokinetic Models for Dose Personalization 2020
Contributed talk at the Joint Statistical Meetings
Philadelphia, USA (virtual)

Introduction to AI, and scoping review on AI in Primary Health Care 2019
Invited talk with Jacqueline Kueper at Artificial INTELLIGENce for efficient community based primary healTh CARE (INTELLIGENT-CARE) Workshop
Québec, QC, Canada

Characterizing Outcome Distributions of Dynamic Treatment Regimes 2019
Contributed talk in Emerging Challenges in Precision Medicine — Topic Contributed Papers at the Joint Statistical Meeting
Denver, CO, USA

Machine Learning and Opportunities for Health Promotion 2019
Invited talk at the IPPH-CIFAR Workshop on AI for Public Health Equity
Toronto, ON, Canada

AI Tools to Support Population Health Stakeholders 2018
Invited talk at the Symposium on Exploring the Role of Artificial Intelligence in Population Health Risk Assessment
Toronto, ON, Canada

Characterizing Outcome Distributions of Dynamic Treatment Regimes 2018
Invited talk at the Statistical Society of Canada Annual Meeting
Montreal, QC, Canada

Risk and Reward: Challenges and opportunities in electronic medical record data 2017
Invited talk at the Centre de recherches mathématiques Workshop on Risk Modeling, Management and Mitigation in Health Sciences.
Montreal, QC, Canada

Evaluating Sequences of Treatments using Big and Small Data 2017
Invited talk at Lawson Research Mental Health Group Retreat.
London, ON, Canada

Smart, Healthy Campus: Building leadership and psychological resilience in undergraduate students 2017
Presentation with Dr. Kevin Shoemaker. Bond University/Western University Collaboration Initiative
Gold Coast, QLD, Australia

Multi-objective Markov Decision Processes for Decision Support 2015
Contributed talk (15% acceptance) at RLDM, The Multi-disciplinary Conference on Reinforcement Learning and Decision Making (extended abstract available)

Set-Valued Dynamic Treatment Regimes for Competing Outcomes 2015
Invited talk, Toyota AI Seminar Series at the University of Michigan

Set-Valued Dynamic Treatment Regimes for Competing Outcomes 2014
Contributed talk, International Symposium on Business and Industrial Statistics and Conference of the ASA Section on Statistical Learning and Data Mining

Linear Fitted-Q Iteration with Multiple Reward Functions 2013
Contributed talk, 23rd International Conference on Automated Planning and Scheduling (ICAPS), Journal Presentation track

Multi-Objective RL for Decision Support 2013
Invited talk at the Planning and Learning Workshop at the 23rd International Conference on Automated Planning and Scheduling (ICAPS)

The Reward Hypothesis, the Rationality Assumption, and Decision Support 2013
Invited talk, University of Alberta AI Seminar

Optimality and Preference in Dynamic Treatment Regimes 2013
Invited talk, University of Washington Center for Statistics and the Social Sciences

Possible Futures: Complexity in Sequential Decision-Making 2013
Invited talk, Waterloo Institute for Complexity & Innovation

The Role of Active Learning in Sequential Decision-Making 2012
Contributed talk, Joint Statistical Meeting

Supporting Preference-aware Sequential Medical Decision Making 2012
Contributed talk, Workshop on Meaningful Use of Complex Medical Data

Inverse Preference Elicitation for Sequential Decision Making 2011
Invited talk, INFORMS Healthcare Conference in Montreal, QC

Reward Preferences in Reinforcement Learning 2011
Invited talk, Université de Liège

Learning and Planning from Batch Time Series Data 2010
Principal organizer. Workshop at Neural Information Processing Systems

Gaussian Process Response Surface Optimization 2010
Invited talk, INFORMS Computing Society meeting in Austin, TX

Gaussian Process Response Surface Optimization 2009
Invited talk, NIPS Workshop on Adaptive Sensing, Active Learning and Experimental Design: Theory, Methods and Applications

Adaptive Treatment Strategies 2009
Invited talk at the Wayne State University Pediatric Prevention Research Center

Bayesian Global Optimization for Robot Gait Learning 2007
Invited talk, Reykjavík University

Student Presentations

Identifying priorities for Artificial Intelligence and primary care in Ontario: A multi-stakeholder engagement event.
Trillium Primary Health Care Research Day, 2021 Oct 15.
Oral presentation by Kueper JK, Terry AL, Bahniwal R, Beleno R, Brown JB, Dang J, Léger D, Meredith L, McKay S, Pinto A, Ryan BL, Stewart M, Zwarenstein M, Lizotte DJ. Virtual Presentation,

Comparisons Between Hamiltonian Monte Carlo and Maximum A Posteriori For A Bayesian Model For Apixaban Induction Dose & Dose Personalization 2020
Machine Learning for Health Care, Stanford, USA. (virtual)
Poster presentation by A. Demetri Pananos (accompanying full paper submission.)

Artificial Intelligence and Primary Care: What research has been done and how do we move forward? 2019
Trillium Primary Health Care Research Day. Toronto, ON.
Poster presentation by Kueper, J.K.; Terry, A.L.; Zwarenstein, M.; Lizotte, D.J.

Impact of social determinants of health information on predictive models for chronic kidney disease in primary health care 2018
Society for Medical Decision Making, Montreal, QC.
Poster presentation by Jacqueline Kueper (PhD Western) with co-authors

FRAMR-EMR: Framework for Prognostic Predictive Model Development Using Electronic Medical Record Data With a Case Study in Osteoarthritis Risk 2017
North American Primary Care Research Group Conference, Montreal, QC.
Oral presentation by Jason Black (MSc Western) with co-authors Dr. Amanda Terry

Cognition and Motor Function: A Novel Outcome Measure for Studies of Pre-Dementia Syndromes 2017
Canadian Society of Epidemiology and Biostatistics 2017 Conference: From Molecules to Population, Banff, AB.
Oral presentation by Jacqueline Kueper (MSc Western) with co-authors Drs. Mark Speechley and Manuel Montero-Odasso

Predicting Important Patient Domains for Glaucoma Management 2017
Canadian Society of Epidemiology and Biostatistics 2017 Conference: From Molecules to Population, Banff, AB.
Oral presentation by Lavanya Uruthiramoorthy (MSc Western) with co-authors Drs. Monali Malvankar and Cindy Hutnik

Health Related Quality of Life of Glaucoma and Glaucoma Suspect Patients 2016
Western Ophthalmology Research Day, London, ON.
Oral Presentation by Lavanya Uruthiramoorthy (MSc Western) with co-authors Drs. Monali Malvankar and Cindy Hutnik

gLOP: the global and Local Penalty for Capturing Predictive Heterogeneity 2016
Machine Learning for Healthcare Conference, Los Angeles, CA
Poster Presentation by Rhiannon Rose (PhD Western) (full paper available)

gLOP: A Penalized Regression Framework with Applications in Exploratory and Predictive Healthcare Data Analysis 2015
Neural Information Processing Systems Workshop on Machine Learning for Healthcare, Montreal, QC.
Poster Presentation by Rhiannon Rose (PhD Western) (extended abstract available)

Modelling the Effect of Mechanical Ventilation 2013
Meaningful Use of Complex Medical Data at Children's Hospital Los Angeles
Oral Presentation by Chengbo Li (MMath Waterloo)

Temporal Modelling of Patient-controlled Analgesia 2013
Meaningful Use of Complex Medical Data at Children's Hospital Los Angeles
Poster Presentation by Rhiannon Rose (MMath Waterloo)

Pattern Recognition and Characterization for Surface Self-Assembly Imaging 2013
Waterloo Cheriton Symposium Poster Competition – Honourable Mention
Poster Presentation by Robert Suderman (MMath Waterloo)

Pattern Recognition and Characterization for Surface Self-Assembly Imaging 2013

Surface Canada Conference
Oral Presentation by Robert Suderman (MMath Waterloo)

Bayesian Contact Tracing for Communicable Respiratory Disease 2012
Society for Medical Decision Making
Poster Presentation by Ayman Shalaby (MMath Waterloo)

Teaching Experience

Instructor - Western

CS 4433/9117/9647 - Unstructured Data	W18, W19, W20, W21
MPH 9117 - Public Health Informatics	W17, W18, W19, W20, W21
CS 4414/9114/9637 - Introduction to Data Science I	F17, F18, F19, F20
CS 4437/9637 - Introduction to Data Science	W16, W17
EPIDEMIO 4715/9560 - Design and Analysis of Clinical Trials	W16

Instructor - Waterloo

I was recognized within University of Waterloo Computer Science as a Top Instructor for all of my undergraduate offerings.

CS 886 - Topics in AI: Applied Machine Learning	W12, F12, S13, F14
CS 136 - Elementary Algorithm Design and Data Abstraction	F11, F12, F13
CS 135 - Designing Functional Programs	F14

Instructor - Reykjavík University

T-529-ITME - Introduction to Machine learning	S07

Supervision

Postdoctoral Supervision

Ethan Jackson (PhD Computer Science), "Predictive modelling long-term care"
1/2019–4/2019
Dr. Jackson assisted with the successful preparation and submission of a collaborative grant with PointClickCare, a leading provider of electronic health record software to the long-term care sector, and he worked with PCC staff to construct a first round of predictive models and evaluations for the project. Although Dr. Jackson was unable to complete the project he is now working at the Vector Institute with a focus on health partnerships.

Katherine Mathers (PhD Biology), "Predictive modelling in long-term care"
5/2019–8/2019
Dr. Mathers stepped into the aforementioned project upon the departure of Dr. Jackson. Building on her outstanding research record in physiology and biochemistry, applied to metabolic regulation during hibernation and pregnancy, she continued the modelling work through to the end of the project and is now employed as a full-time member of the PCC Data Intelligence team. Dr. Mathers continues to facilitate interaction and collaboration between my research group and PCC as we embark on a larger project.

Current Graduate Supervision - PhD

Parisa Mokhtari Hesari, "Quantitative intersectionality research in breast cancer"
PhD in Epidemiology, *co-supervised with Dr. Greta Bauer*
9/2020–

Steven Hun Lee, "Machine learning and network analysis methods for the epidemiology of mental health"
PhD in Epidemiology, *co-supervised with Dr. Kelly Anderson*
9/2020–

Caroline Strickland, "Reinforcement learning methodology for decision support in primary and long-term care"
PhD in Computer Science
9/2019–

Mozhgan Salimiparsa "Visual analytics for health informatics"
PhD in Computer Science, *co-supervised* w/Dr. Kamran Sedig
9/2018–

A. Demetri Pananos, "Combining pharmacokinetics, pharmacodynamics, and machine learning to improve models for personalized medicine"
PhD in Biostatistics
9/2017–

Jacqueline Kueper, "Artificial Intelligence methodology for learning primary healthcare systems"
Combined PhD in Epidemiology and Computer Science
9/2017–

Current Graduate Supervision - MSc

Erik Christensen, "A Framework for Characterising Performance in Multi-class Classifications with Application in Cancer Single-Cell RNA Sequencing"
MSc in Computer Science, *co-supervised with Dr. Parisa Shooshtari*
9/2019–12/2021

Completed Graduate Supervision - PhD

Brent Davis, "Disease outbreak surveillance and decision support using social media"
PhD in Computer Science, *co-supervised* w/Dr. Kamran Sedig
Started MSc 9/2015, transferred to PhD
9/2016–8/2021

Rhiannon Rose, "Improving Prediction of Systemic Statin Exposure Using Concomitant Medications, Non-Linear Modelling, and Novel SNP Discovery"
PhD in Epidemiology
9/2014–9/2018

Completed Graduate Supervision - MSc

Steve Hun Lee, "Impact of Social Determinants of Health on the Cost of Coronary Artery Bypass Graft "
MSc in Epidemiology, *co-supervised* w/Dr. Ava John-Baptiste
9/2018–10/2020

Nathan Phelps, " Reinforcement learning in large, structured action spaces: A simulation study of decision support for spinal cord injury rehabilitation"
MSc in Computer Science
9/2018–7/2020

Maede Nouri, "A Visual Analytics System for Investigating Multimorbidity Using Supervised Machine Learning"
MSc in Computer Science, *co-supervised* w/Dr. Kamran Sedig
9/2018–4/2020

Nima Gheisarzadeh, "Pathways to care for persons with first-episode psychosis"

MSc in Epidemiology, *co-supervised* w/Dr. Kelly Anderson
9/2016–8/2019

Jason Black, "Prognostic Predictive Model to Estimate the Risk of Multiple Chronic Diseases: Constructing Copulas Using Electronic Medical Record Data"
MSc in Epidemiology
9/2016–9/2018

Elham Harirpoush, "Baseline Assisted Classification of Heart Rate Variability"
MSc in Computer Science
9/2016–5/2018

Patrick Kim, "Chronic Disease Risk Prediction Models and their Impact on Behavioural and Health Outcomes: A Systematic Review and Meta-analysis "
MSc in Epidemiology, *co-supervised* w/Dr. Amanda Terry
9/2015–12/2017

Lavanya Uruthiramoorthy, "Predicting Important Patient-Reported Outcomes for Glaucoma Management: Cross-Sectional Study"
MSc in Epidemiology, *co-supervised* w/Dr. Monali Malvankar
9/2015–8/2017

Chengbo Li, "Sensitivity Analysis for Causal Inference with Decision Trees"
MMath in Computer Science (Waterloo)
9/2012–5/2015

Robert Suderman, "Pattern Understanding for Images of Self-assembled Nanomaterials"
MMath in Computer Science (Waterloo) *co-supervised* w/Dr. N. Abukhdeir
9/2012–9/2014

Rhiannon Rose, "gLOP: A Cleaner Dirty Model for Multitask Learning"
MMath in Computer Science (Waterloo)
9/2012–9/2014

Michael Cormier, "3D Reconstruction from Single Projections, with Applications to Astronomical Images"
MMath in Computer Science (Waterloo) *co-supervised* w/Dr. R. Mann
9/2011–9/2013

Ayman Shalaby, "Bayesian Methods for Syndromic Surveillance"
MMath in Computer Science (Waterloo)
9/2011–5/2014 (Part time)

Research Assistant Supervision (non-degree)

Arezoo Tahmasebi - Part time research assistant W16

Undergraduate Supervision

Natalie Pallisco - Scholar's Electives 3305E Research Project F20-W21

Sejin Kim - Medical Health Informatics 4980E Final Project F19-W20

Daniel Zhang - Epidemiology 4400Z Thesis F19-W20

Erica Yarmol-Matusiak - Scholar's Electives 2200E Research Project F18-W19

Michael Lambert - Epidemiology 4400Z Thesis F18-W19

Cole Fisher - Computer Science 4490Z Thesis W17-F17

Diana Varyvoda - Computer Science 4490Z Thesis F17-W18

Jeremy Huang - Computer Science 4490Z Thesis F16-W17

Maria Jahja - Visiting Research Assistant S16

Jason Black - Medical Health Informatics 4980E Final Project F15-W16

Shannon Brown - Computer Science 3380B Final Project W15

Thesis Reading and Committee Membership

Nicky Bayat - Examiner for MSc (CS) under Dr. Y. Mohsenzadeh 2020
Zhe Li - Examiner for PhD (Epidemiology) under Dr. A. John-Baptiste 2020
Eada Novilla-Surette - Examiner for MSc (Health Inf. Sci.) under Dr. R. Booth 2020
Sadiq Raji - Examiner for PhD (Health Inf. Sci.) under Dr. C. Gibson 2020
Mahtab EzzatiKarami - Examiner for MSc (CS) under Dr. N. Madhavji 2020
V. Anemily Sippola - Examiner for MSc (CS) under Dr. R. Mercer 2020
Sarah Singh - Examiner for PhD (Epidemiology) under Dr. S. Frisbee 2020
Moutasem Zakkar - C'tee Member for PhD (Public Health and Health Systems) under Dr. Craig Janes, U. of Waterloo 2020
Connor Chato - Examiner for MSc (Pathology) under Dr. Art Poon 2020
Parinaz Esfahani - Examiner for MSc (CS) under Dr. Kamran Sedig 2020
Gurjit Randhawa - Examiner for PhD (CS) under Dr. Lila Kari 2020
Matthias Babin - Examiner for MSc (CS) under Dr. Mike Katchabaw 2020
Elham Rahmani - Examiner for MSc (CS) under Dr. Nazim Madhavji 2020
Sudipta Roy - Examiner for MSc (CS) under Dr. Bob Mercer 2020
Amir HaghighatiMaleki - Examiner for MSc (CS) under Dr. Kamran Sedig 2020
Yuanyuan Han - Examiner for MSc (CS) under Dr. Charles Ling 2019
Muhammad Rifayat Samee - Examiner for MSc (CS) under Dr. Bob Mercer 2019
Jonathan Tan - Examiner for MSc (CS) under Dr. Mike Katchabaw 2019
Jumayel Islam - Examiner for MSc (CS) under Drs. Bob Mercer, Lu Xiao 2018
Hae Young Jung - Examiner for MSc (Biostat) under Dr. Yun-Hee Choi 2018
Stephen Solis-Reyes - Examiner for MSc (CS) under Dr. Lila Kari 2018
Ryan Chan - Examiner for MSc Nursing under Dr. Richard Booth 2018
Emma Farago - Examiner for MSc Engineering under Dr. Ana Luisa Trejos 2018
Jun Wang - Examiner for MSc (CS) under Dr. Charles Ling 2018
Naresh Eeda - Examiner for MSc (CS) under Dr. Nazim Madhavji 2017
Efstathia Kiatos - Examiner for MSc (Epi) under W Hodge, M Malvankar 2017
Oluwakemi Ola - Internal Examiner for PhD (CS) under K Sedig 2017
Ayan Chaudhury - Internal Examiner for PhD (CS) under J Barron 2017
Jacqueline Kueper - C'tee for MSc (Epi) under M Speechley, M Montero-Odasso 2017
Muhammad S. Ahmed - Examiner for MSc (CS) under L Ilie 2017
Dimo Angelov - Examiner for MSc (CS) under L Ilie, P Rogan 2017
Annette Azad - Examiner for MSc (CS) under M Bauer 2017
Leonard Guizzetti - Examiner for MSc (Epi) under GY Zhou, B Feagan 2017
Shuang Ao, Internal Examiner for PhD (CS) under CX Ling 2017
Mazen Melibari - Internal Examiner for PhD (CS) under P Poupart 2016
Mehrsa Golestaneh - Committee member for PhD (CS) under M Daley 2016
Aycha Tammour - University Examiner for PhD (Astronomy) under S Gallagher 2016
John Doucette - Committee member for PhD (CS) under R Cohen 2016
Farheen Omar - Committee member for PhD (CS) under P Poupart 2016
Sumeet Kalia - Reader for MSc (Biostat) under A Donner, N Klar 2015
Shrinu Kushagra - Reader for MMath (CS) under S Ben-David 2014

Dan Recoskie - Reader for MMath (CS) under R Mann 2014
Kun Xiong - Reader for MMath (CS) under M Li 2014
Arthur Carvalho - Examiner for PhD (CS) under K Larson 2014
Tameem Adel Hesham - Examiner for PhD (Engineering) under D Stashuk 2014
Xiao Yang - Reader for MMath (CS) under J Hoey 2014
George Zhu - Reader for MMath (CS) under J Hoey 2013
Nika Haghtalab - Reader for MMath (CS) under S Ben-David 2013
Ray Ruvinskiy - Reader for MMath (CS) under P van Beek 2013
Igor Kiselev - Reader for MMath (CS) under P Poupart 2013
Arthur Carvalho - Committee member for PhD (CS) under K Larson 2013
Mazen Melibari - Committee member for PhD (CS) under P Poupart 2013
John Doucette - Committee member for PhD (CS) under R Cohen 2013
Daniel Rasmussen - Examiner for PhD (CS/Neuro) under C Eliasmith 2012
Ryan Case - Reader for MMath (CS) under S Keshav 2012
Fatemeh Dorri - Reader for MMath (CS) under A Ghodsi 2012
Yuxin Yu - Reader for MMath (CS) under K Larson 2011

ACADEMIC SERVICE

Co-Organizer, Summer Institute on AI and Society, Governance, and Ethics 2019
With my co-organizers Drs. Alona Fyshe and Ted Parson. A summary of the outputs of the workshop is given in our commentary [71].

Program Leader, Statistical and Mathematical Sciences Institute (SAMSI) Program on Precision Medicine 2018–2019
The goal of the year-long program was to bring together applied mathematicians, statisticians, computer scientists, and domain scientists to foster advances in methodology for precision medicine, with a particular emphasis on sequential decision-making. A summary is here:
https://www.samsi.info/programs-and-activities/year-long-research-programs/program-statistical-mathematical-computational-methods-precision-medicine-pmed/

Senior Conference Organization
Senior Program Committee, Intl. Joint Conf. on Artificial Intelligence 2016, 2017, 2020
Senior Program Committee, Machine Learning in Health Care Conference 2017
Demonstrations Chair, American Association for Artificial Intelligence 2015

Program Committee Member
American Association for Artificial Intelligence Conference (AAAI) 2008–2015
Artificial Intelligence and Statistics (AISTAT) 2011
International Conference on Automated Planning and Scheduling (ICAPS) 2012–2013
International Conference on Machine Learning (ICML) 2008–2016
International Joint Conference on Artificial Intelligence (IJCAI) 2007,2009,2015
Machine Learning for Health Care 2016–2020
Multi-disciplinary Conf. on Reinforcement Learning and Decision Making 2015, 2017
Neural Information Processing Systems Conference 2007–2013,2015–2016,2019,2020
Uncertainty in Artificial Intelligence (UAI) 2012–2016
Workshop on Data Integration and Applications 2015,2016

Journal Reviewer
Artificial Intelligence Journal, Biometrics, Information Sciences, BMC Health Services Research, Journal of Artificial Intelligence Research, Journal of the American Statistical Association (Theory and Methods), Journal of Causal Inference, Journal of Data Mining and Knowledge Discovery, Journal of Machine Learning Research, Machine Learning Journal, Neurocomputing, Neuroscience, Statistical Methods for Medical Research, Statistics and Computing, Statistics in Medicine

Grant Reviewer
MITACS (Canada), Natural Sciences and Engineering Research Council (Canada), Technology Foundation STW (Netherlands), Digital Technology Supercluster (Canada)

University Service

Administrative Roles

Associate Director of the Master of Data Analytics Program	2016-2020

Departmental Service - Western

Appointments Committee (Computer Science)	2015–2020
MPH Admissions Committee	2017,2018
MMASc Admissions Committee	2016
Joint Appointments Committee (Computer Science, Stats. & Act. Sci.)	2015–2016
Scholarship Committee (Epidemiology & Biostatistics)	2015–2020
Scholarship Committee (Computer Science)	2015–2020
Data Analytics Program Curriculum Committee co-chair with Dr. Douglas Woolford	2015–2016

Departmental Service - Waterloo

Women in Computer Science Committee	2013–2014
Outreach Committee	2012–2013
Graduate Studies Committee	2011–2012

University Service - Waterloo

University of Waterloo Chronic Disease Prevention Initiative Networking Committee	2011–2013

Outreach

Association of Commonwealth Universities Summer School 2015
Lecture on "Big Data: Opportunities and Pitfalls"

Waterloo Centre for Education in Mathematics and Computing 2014
Lecture on "Teaching Computers to Make Decisions."
Explored possibilities for bringing machine learning to high school classrooms

CS4U Day at Waterloo: Teaching Computers to Make Decisions 2013
Introduced high school students to decision trees and feature construction.
University of Waterloo David R. Cheriton School of Computer Science

Grade 8 Science: "Robots are Awesome" 2007
Introduced students to basic concepts about robots and intelligent agents.
Richard S. Fowler Catholic Junior High School, St. Albert, AB

Smithsonian Folklife Festival 2006
Used hands-on demonstrations to illustrate the potential for learning in robots.
CS Representative to the Alberta at the Smithsonian programme, Washington, DC.

Women in Information Technology: Leap Toward the Future 2006
Helped promote career paths in information technology for young women.
In conjunction with the Canadian Information Processing Society.

Personal Information

Citizenship: Canadian

Languages: English (native), French (reading, listening, speaking)