

Blair Bilodeau

CONTACT INFORMATION

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DEGREES

<i>In progress</i>	Ph.D.	Statistical Sciences, University of Toronto Committee: Daniel Roy (Advisor), Nancy Reid, Ting-Kam Leonard Wong
2018	H.B.Sc.	Financial Modelling, University of Western Ontario

PROFESSIONAL AFFILIATIONS AND EMPLOYMENT

2022	Visiting Student, Simons Institute for the Theory of Computing, Berkeley, California
2020	Visiting Student, Insitute for Advanced Study, Princeton, New Jersey
2019–	Graduate Researcher, Vector Institute, Toronto, Ontario
2017–18	Undergraduate Researcher, University of Western Ontario, London, Ontario
2016	Risk Research Intern, London Life, London, Ontario
2015	Data Analyst Intern, Bell Canada, London, Ontario

RESEARCH GRANTS

2020–21	12,000 CAD	Vector Institute Research Grant
2020	6,000 CAD	NSERC Michael Smith Foreign Study Supplement
2019–22	105,000 CAD	NSERC Alexander Graham Bell Canada Graduate Scholarship – Doctoral
2018–19	17,500 CAD	NSERC Alexander Graham Bell Canada Graduate Scholarship – Master’s
2018–19	15,000 CAD	Queen Elizabeth II Graduate Scholarship in Science and Technology (<i>Declined</i>)
2017–18	9,000 CAD	NSERC Undergraduate Student Research Awards

HONOURS AND AWARDS

2022	Centre for International Experience Award, University of Toronto
2021	Doctoral Early Research Excellence Award, Statistical Sciences, University of Toronto
2021	Hannan Graduate Student Travel Award, Institute of Mathematical Statistics
2020	Student Ambassador Award, Statistical Sciences, University of Toronto
2020	Best Poster Award, New York Academy of Sciences Machine Learning Symposium
2018	E. F. and F. W. Burton Graduate Scholarship, University of Toronto
2017	Robert and Ruth Lumsden Scholarship in Science, University of Western Ontario
2017	Borwein Memorial Prize, University of Western Ontario
2014–18	Continuing Admission Scholarship, University of Western Ontario

REFEREED PUBLICATIONS

* Shared first authorship

1. J. Negrea*, **B. Bilodeau***, N. Campolongo, F. Orabona, and D. M. Roy. (2021). Minimax Optimal Quantile and Semi-Adversarial Regret via Root-Logarithmic Regularizers. *Neural Information Processing Systems*.
2. **B. Bilodeau**, D. J. Foster, and D. M. Roy. (2020). Tight Bounds on Minimax Regret Under Logarithmic Loss via Self-Concordance. *International Conference on Machine Learning*.
3. **B. Bilodeau**, D. A. Stanford, M. Goldszmidt, and A. Appleton. (2019). Simulated Co-location of Patients Admitted to an Inpatient Internal Medicine Teaching Unit: Potential Impacts on Efficiency and Physician-Nurse Collaboration. *INFOR: Information Systems and Operational Research*.

PREPRINTS

4. **B. Bilodeau**, D. J. Foster, and D. M. Roy. (2021). Minimax Rates for Conditional Density Estimation via Empirical Entropy. *arXiv:2109.10461*.
5. **B. Bilodeau***, A. Stringer*, and Y. Tang*. (2021). Stochastic Convergence Rates and Applications of Adaptive Quadrature in Bayesian Inference. *arXiv:2102.06801*.
6. **B. Bilodeau***, J. Negrea*, and D. M. Roy. (2020). Relaxing the I.I.D. Assumption: Adaptively Minimax Optimal Regret via Root-Entropic Regularization. *arXiv:2007.06552*.
7. **B. Bilodeau** and D. A. Stanford. (2020). High-Priority Expected Waiting Times in the Delayed Accumulating Priority Queue with Applications to Health Care KPIs. *arXiv:2001.06054*.

PRESENTATIONS (CONTRIBUTED AND INVITED TALKS/SEMINARS/COLLOQUIA/WORKSHOPS)

An Introduction to Theoretical Statistics Research

July 2021 University of Toronto: Independent Summer Stats Community Talk Series (**Invited**)

Stochastic Convergence Rates and Applications of Adaptive Quadrature in Bayesian Inference

June 2021 International Society for Bayesian Analysis World Meeting: Oral Session

Minimax Rates for Conditional Density Estimation via Empirical Entropy

Aug 2021 American Statistical Association Joint Statistical Meetings: Speed Session

June 2021 Statistical Society of Canada Annual Meeting: Oral Session

Apr 2021 University of Toronto Statistical Sciences Research Day: Oral Session

Relaxing the I.I.D. Assumption: Adaptively Minimax Optimal Regret via Root-Entropic Regularization

Dec 2021 NeurIPS Workshop on Robustness and Misspecification in Prob. Modeling (**Peer-Reviewed**)

Apr 2021 DeepMind: Foundations Reading Group (**Invited**)

Mar 2021 University of California, Los Angeles: Computer Science Seminar (**Invited**)

Mar 2021 Massachusetts Institute of Technology: Stochastics and Statistics Seminar (**Invited**)

Feb 2021 RIKEN Center for Advanced Intelligence Project: Public Seminar (**Invited**)

Tight Bounds on Minimax Regret under Logarithmic Loss via Self-Concordance

Aug 2020 American Statistical Association Joint Statistical Meetings: Poster Session

Mar 2020 New York Academy of Sciences Machine Learning Symposium: Poster Session

Mar 2020 Institute for Advanced Study: Special Year Student Seminar (**Invited**)

Scraping Papers from arXiv and biorXiv using Python

May 2020 Canadian Statistics Student Conference: Scientific Workshop (**Invited**)

High-Priority Expected Waiting Times in the Delayed Accumulating Priority Queue

Aug 2019 Canadian Queueing Conference: Oral Session

June 2019 Southwestern Ontario Graduate Math and Stats Conference: Oral Session

May 2019 Canadian Operational Research Society Annual Meeting: Oral Session

Simulated Co-location of Patients Admitted to an Inpatient Internal Medicine Teaching Unit

Aug 2018 Canadian Queueing Conference: Oral Session

July 2018 Operational Research Applied to Health Services Annual Meeting: Oral Session

TEACHING

UTSG = University of Toronto, St. George

Course Instructor

2021 S UTSG STA347 Probability Theory

2020 S UTSG STA347 Probability Theory

Head Teaching Assistant

2019 F UTSG STA442 Methods of Applied Statistics
2019 S UTSG STA261 Probability and Statistics II

Teaching Assistant

2021 F UTSG STA347 Probability Theory
2021 F UTSG STA257 Probability and Statistics I
2021 W UTSG STA238 Probability, Statistics, and Data Analysis II
2020 F UTSG STA347 Probability Theory
2020 F UTSG STA257 Probability and Statistics I
2019 F UTSG STA257 Probability and Statistics I
2019 W UTSG STA457 Time Series Analysis
2019 W UTSG STA355 Theory of Statistical Practice
2018 F UTSG STA347 Probability Theory
2018 F UTSG ACT230 Mathematics of Finance for Non-Actuaries

SERVICE

Journal Referee

Journal of Machine Learning Research, Machine Learning

Conference Referee

ALT 2021, AISTATS 2022, ICLR 2022, COLT 2022, ICML 2022

Workshop Referee

NeurIPS 2021

Administrative Positions

2019–21 Treasurer, Statistics Graduate Student Association, University of Toronto