Blair Bilodeau

CONTACT INFORMATION

Website	www.blairbilodeau.ca
Email	blair.bilodeau@mail.utoronto.ca
Phone	+1 (519) 871– 4811

DEGREES

In progress	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	Research Intern, Google Brain, Seattle, Washington
2022	Visiting Student, Simons Institute for the Theory of Computing, Berkeley, California
2020	Visiting Student, Insitute for Advanced Study, Princeton, New Jersey
2019–	Graduate Student, 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

2022	8,000 CAD	Centre for International Experience Award, University of Toronto
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 (*Declined*)
2017–18	9,000 CAD	NSERC Undergraduate Student Research Awards

HONOURS AND AWARDS

2022	Conference Travel Grant, University of Toronto School of Graduate Studies
2022	Top 10% Reviewer Award, AISTATS
2021	Doctoral Early Research Excellence Award, University of Toronto Dept. of Statistical Sciences
2021	Hannan Graduate Student Travel Award, Institute of Mathematical Statistics
2020	Student Ambassador Award, University of Toronto Dept. of Statistical Sciences
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

PUBLICATIONS AND PREPRINTS

*Shared first authorship

Density Estimation

1. **B. Bilodeau**, D. J. Foster, and D. M. Roy. (2021). Minimax Rates for Conditional Density Estimation via Empirical Entropy. **arXiv:2109.10461**.

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**.

Adaptive Sequential Decision Making

3. **B. Bilodeau**, L. Wang, and D. M. Roy. (2022). Adaptively Exploiting d-Separators with Causal Bandits. **arXiv:2202.05100**.

4. 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**.

5. **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**.

Numerical Quadrature for Bayesian Inference

6. A. Stringer* and **B. Bilodeau***. (2022). Fitting Generalized Linear Mixed Models using Adaptive Quadrature. **arXiv:2202.07864**.

7. **B. Bilodeau***, A. Stringer*, and Y. Tang*. (2021). Stochastic Convergence Rates and Applications of Adaptive Quadrature in Bayesian Inference. **arXiv:2102.06801**.

Queueing in Health Care

8. **B. Bilodeau** and D. A. Stanford. (2022). High-Priority Expected Waiting Times in the Delayed Accumulating Priority Queue with Applications to Health Care KPIs. **INFOR: Information Systems and Operational Research**.

9. **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**.

ADDITIONAL SCHOLARLY WORK

B. Bilodeau. (2022). Blair Bilodeau's Contribution to the Discussion of 'Assumption-Lean Inference for Generalised Linear Model Parameters' by Vansteelandt and Dukes. **Journal of the Royal Statistical Society: Series B**.

CONTRIBUTED AND INVITED TALKS/SEMINARS/COLLOQUIA/WORKSHOPS

Adaptively Exploiting d-Separators with Causal Bandits
June 2022	Statistical Society of Canada Annual Meeting: Oral Session
May 2022	University of Toronto Statistical Sciences Research Day: Oral Session
May 2022	Simons Institute for the Theory of Computing: Statistical Theory Reading Group
Mar 2022	Carnegie Mellon University: Zachary Lipton Lab Meeting **(Invited)**

Minimax Rates for Conditional Density Estimation via Empirical Entropy
June 2022	Institute of Mathematical Statistics Annual Meeting: Oral Session
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
Feb 2022	Simons Institute for the Theory of Computing: Learning with Strategic Behaviour Reading Group
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)**

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

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
  AISTATS (2022), ALT (2021), COLT (2022), ICLR (2022), ICML (2022), NeurIPS (2022)

Workshop Referee
  NeurIPS (2021)

Administrative Positions

2022	Statistical Sciences Research Day Planning Committee, University of Toronto
2019–21	Treasurer, Statistics Graduate Student Association, University of Toronto