Blair Bilodeau

Contact Information

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Degrees

2023 *(Exp.)*	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, Institute 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

Publications and Preprints

⋆Shared first authorship

1. **B. Bilodeau**, L. Wang, and D. M. Roy. (2022). Adaptively Exploiting d-Separators with Causal Bandits. **Neural Information Processing Systems**.
2. A. Stringer⋆ and **B. Bilodeau**⋆. (2022). Fitting Generalized Linear Mixed Models using Adaptive Quadrature. **arXiv:2202.07864**.
3. 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**.
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**, D. J. Foster, and D. M. Roy. (2020). Tight Bounds on Minimax Regret Under Logarithmic Loss via Self-Concordance. **International Conference on Machine Learning**.
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**.

Research Grants

2022	1,000 CAD	School of Graduate Studies Conference Travel Grant
2022	8,000 CAD	Centre for International Experience Award+
2021	750 USD	Institute of Mathematical Statistics Hannan Graduate Student Travel Award
2020–22	18,000 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	NeurIPS Scholar Award
2022	NeurIPS Top Reviewer Award
2022	AISTATS Top 10% Reviewer Award
2021	Dept. of Statistical Sciences Doctoral Early Research Excellence Award
2020	Dept. of Statistical Sciences Student Ambassador Award
2020	New York Academy of Sciences Machine Learning Symposium Best Poster Award
2018	E. F. and F. W. Burton Graduate Scholarship
2017	Robert and Ruth Lumsden Scholarship in Science
2017	Borwein Memorial Prize
2014–18	University of Western Ontario Continuing Admission Scholarship

Contributed and Invited Talks/Seminars/Colloquia/Workshops

Adaptively Exploiting d-Separators with Causal Bandits

Dec 2022	International Conference on Computational and Methodological Statistics **(Invited)**
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

Sep 2022	CREST–CMAP Weekly Seminar **(Invited)**
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
June 2022 University of Toronto: Undergraduate Research Opportunity Program Weekly Seminar **(Invited)**
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

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

Course Instructor
Probability Theory (2020, 2021)

Head Teaching Assistant
Methods of Applied Statistics (2019)
Probability and Statistics II (2019)

Teaching Assistant
Probability Theory (2018, 2020, 2021)
Probability, Statistics, and Data Analysis II (2021)
Probability and Statistics I (2019, 2020, 2021)
Theory of Statistical Practice (2019)
Time Series Analysis (2019)
Mathematics of Finance for Non-Actuaries (2018)

SERVICE

Journal Referee
Journal of Machine Learning Research, Machine Learning

Conference Referee
AISTATS (2022, 2023), ALT (2021, 2023), 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