

Blair Bilodeau

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DEGREES

2023 Ph.D. Statistical Sciences, University of Toronto
2018 H.B.Sc. Financial Modelling, University of Western Ontario

EMPLOYMENT

2023– **Member of Research Staff**, The Voleon Group, Toronto, Ontario
 • Developing systematic investment strategies using modern statistical learning.
2022 **Research Intern**, Google Brain, Seattle, Washington
 • Established rigorous guarantees for interpretable machine learning.
2018–23 **Ph.D. Candidate**, University of Toronto & Vector Institute, Toronto, Ontario
 • Published novel results in statistics and machine learning theory.
 • Winter 2022 at the Simons Institute for the Theory of Computing, Berkeley, California.
 • Winter 2020 at the Insitute for Advanced Study, Princeton, New Jersey.
2017–18 **Undergraduate Researcher**, University of Western Ontario, London, Ontario
 • Published novel results in queueing theory with health care applications.
2016 **Risk Research Intern**, London Life, London, Ontario
2015 **Data Analyst Intern**, Bell Canada, London, Ontario

SELECTED HONOURS AND AWARDS

2023 D. A. S. Fraser Doctoral Thesis Award
2023–25 NSERC Postdoctoral Fellowship (*Declined*)
2022 University of Chicago Rising Star in Data Science
2021 Institute of Mathematical Statistics Hannan Graduate Student Award
2020 New York Academy of Sciences Machine Learning Symposium Best Poster Award
2020 NSERC Michael Smith Foreign Study Supplement
2019–22 NSERC Alexander Graham Bell Canada Graduate Scholarship – Doctoral
2018–19 NSERC Alexander Graham Bell Canada Graduate Scholarship – Master’s
2018–19 Queen Elizabeth II Graduate Scholarship in Science and Technology (*Declined*)
2017–18 NSERC Undergraduate Student Research Awards (x2)

SELECTED PAPERS

*Shared first authorship; ^(A)Alphabetical

B. Bilodeau, D. J. Foster, D. M. Roy. (2023). Minimax Rates for Conditional Density Estimation via Empirical Entropy. **Annals of Statistics**.

B. Bilodeau, N. Jaques, P. W. Koh, B. Kim. (2022). Impossibility Theorems for Feature Attribution. **arXiv:2212.11870**.

^(A)**B. Bilodeau**, A. Stringer, Y. Tang. (2022). Stochastic Convergence Rates and Applications of Adaptive Quadrature in Bayesian Inference. **Journal of the American Statistical Association**.

B. Bilodeau, L. Wang, D. M. Roy. (2022). Adaptively Exploiting d -Separators with Causal Bandits. **Neural Information Processing Systems (Oral)**.

***B. Bilodeau**, *J. Negrea, D. M. Roy. (2020). Relaxing the I.I.D. Assumption: Adaptively Minimax Optimal Regret via Root-Entropic Regularization. **arXiv:2007.06552**.

B. Bilodeau, D. J. Foster, D. M. Roy. (2020). Tight Bounds on Minimax Regret Under Logarithmic Loss via Self-Concordance. **International Conference on Machine Learning**.

ADDITIONAL ACADEMIC EXPERIENCE

- Invited academic talks at McGill, Simon Fraser, Alberta, Michigan, Waterloo, CMStats, Carnegie Mellon, CREST, DeepMind, UCLA, MIT, RIKEN.
- Course instructor for undergraduate probability theory. TA for various undergraduate statistics courses.
- Referee for top machine learning conferences and statistics journals (awards: NeurIPS, AISTATS, UAI).

Full academic CV available upon request.