

# Blair Bilodeau

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## DEGREES

<i>In progress</i>	Ph.D.	Statistical Sciences, University of Toronto Advisor: Daniel Roy Committee: Nancy Reid, Ting-Kam Leonard Wong
2018	H.B.Sc.	Financial Modelling, Western University GPA: 94 / 100

## RESEARCH GRANTS

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> )
2018	4,500 CAD	NSERC Undergraduate Student Research Award
2017	4,500 CAD	NSERC Undergraduate Student Research Award

## HONOURS AND AWARDS

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
2020	Visiting Graduate Student, Insitute for Advanced Study, Princeton, New Jersey
2018	E. F. and F. W. Burton Graduate Scholarship, University of Toronto
2017	Robert and Ruth Lumsden Scholarship in Science, Western University
2017	Borwein Memorial Prize, Western University
2014–18	Continuing Admission Scholarship, Western University

## REFEREED PUBLICATIONS

<sup>†</sup>lead author; \* equal contribution

1. **B. Bilodeau**<sup>†</sup>, D. J. Foster, D. M. Roy. (2020). Tight Bounds on Minimax Regret Under Logarithmic Loss via Self-Concordance. *International Conference on Machine Learning*.
2. **B. Bilodeau**<sup>†</sup>, D. A. Stanford, M. Goldszmidt, 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

3. **B. Bilodeau**<sup>†</sup>, D. J. Foster, D. M. Roy. (2021). Minimax Rates for Conditional Density Estimation via Empirical Entropy. *In preparation*.
4. **B. Bilodeau**<sup>\*</sup>, A. Stringer<sup>\*</sup>, Y. Tang<sup>\*</sup>. (2021). Stochastic Convergence Rates and Applications of Adaptive Quadrature in Bayesian Inference. *arXiv:2102.06801*.
5. **B. Bilodeau**<sup>\*</sup>, J. Negrea<sup>\*</sup>, D. M. Roy. (2020). Relaxing the I.I.D. Assumption: Adaptively Minimax Optimal Regret via Root-Entropic Regularization. *arXiv:2007.06552*.
6. **B. Bilodeau**<sup>†</sup>, D. A. Stanford. (2020). Average Waiting Times in the Two-Class M/G/1 Delayed Accumulating Priority Queue. *arXiv:2001.06054*.

PRESENTATIONS (CONTRIBUTED AND INVITED TALKS/SEMINARS/COLLOQUIA)

*An Introduction to Theoretical Statistics Research*

July 2021 University of Toronto: Independent Summer Stats Community Tidy Tuesday + Talk Series

*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*

Apr 2021 DeepMind: Foundations Reading Group

Mar 2021 University of California, Los Angeles: Computer Science Seminar

Mar 2021 Massachusetts Institute of Technology: Stochastics and Statistics Seminar

Feb 2021 RIKEN Center for Advanced Intelligence Project: Public Seminar

*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: Invited Workshop

*Average Waiting Times in the Two-Class M/G/1 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

EMPLOYMENT

2019– Graduate Researcher, Vector Institute, Toronto, Ontario

2017–18 Undergraduate Researcher, Western University, London, Ontario

2016 Risk Research Intern, Canada Life, London, Ontario

2015 Data Analyst Intern, Bell Canada, London, Ontario

TEACHING

UTSG = University of Toronto, St. George

Course Instructor

2021 UTSG STA347 Probability Theory

2020 UTSG STA347 Probability Theory

Head Teaching Assistant

2019 UTSG STA442 Methods of Applied Statistics

2019 UTSG STA261 Probability and Statistics II

Teaching Assistant

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

SERVICE

Journal Referee

Machine Learning

Conference Referee

Algorithmic Learning Theory 2021

Administrative Positions

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