Olivier Binette

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Education

Duke University   **Durham, NC**
PhD Student in the Department of Statistical Science   *August 2019 - present*
- Relevant coursework (ongoing): Statistical Programming, Bayesian and Modern Statistics, Linear Models, History of Statistics.

Université du Québec à Montréal   **Montréal, Qc**
Statistics Research M.Sc. (4.0/4.0) & Pure Mathematics B.Sc. (3.97/4.0 US scale GPA)   *2014-2019*
- Relevant coursework: Stochastic Processes, Advanced Probability Theory, Algebraic Combinatorics, Commutative Algebra, Computer Systems, Differential Geometry, Differential topology, Monte Carlo Methods, Regression Models.

Publications

- Binette, O. (2019) A Note on Reverse Pinsker Inequalities. *IEEE Transactions on Information Theory* 65 (7). pp.4094-4096.
- Binette, O. & Guillotte, S. (2019) Bayesian Nonparametrics for Directional Statistics. *arXiv ePrints*. `arxiv:1807.00305.` Submitted to the Journal of Statistical Planning and Inference (under review for minor revisions).
- Binette, O. (2018) Topology and Machine Learning. *Notes from the Margin* 13. pp. 5-6.

Selected Posters

- Binette, O. & Luo, L. *An Analysis of Gibbs Posterior Concentration in Terms of the Separation α-Entropy*. Objective Bayes Conference. Warwick (United Kingdom). June 28, 2019.
- Binette, O. & Guillotte, S. *BNP density estimation on compact metric spaces with a view towards circular statistics*. 12th Conference on Bayesian Nonparametrics. Oxford (United Kingdom). June 24, 2019.
- Binette, O. & Coache, A. *The Significance of the Adjusted R Squared*. (Bio)Statistics Research Day. Montréal (Canada). September 21, 2018.
- Binette, O. *Classification and Topology, or Consequences of Sobolev Consistency*. Canadian Statistics Student Conference. Montréal (Canada). June 2, 2018. (Best poster award.)

Invited Talks

- **MLBytes Speaker Series (Duke University):** Classification and Topology. North Carolina (United States). November 15, 2018.
- **Texas A&M University Nonparametrics Group:** On Bayesian Nonparametric Estimation of Discontinuous Densities. Texas (United States). November 1, 2018.
- **Université du Québec à Montréal:** A Circular Analogue to the Bernstein Polynomial Densities, Bayesian Nonparametrics and Large Support Asymptotics. Montréal (Canada). October 4, 2018.
- **Sherbrooke University:** A Circular Analogue to the Bernstein Polynomial Densities. Sherbrooke (Canada). March 29, 2018.

Awards

- Alexander-Graham-Bell Canada Graduate Scholarship (105 000$; ranked first in Canada among mathematical sciences)
- FRQNT Doctoral Award (85 000$)
- University of Toronto (FAST) Top Doctoral Award (declined).
- Offered admission to Stanford University (Statistics PhD; declined).
- NSERC's Master Scholarship Award (17 500$) & FRQNT's Master Award (30 000$).
- NSERC Undegraduate Student Research Award (5625$; 2016 & 2018) + FRQNT Supplement (2000$).

Teaching Experience

Instructional Teaching Assistant   **Montréal. Qc**
Université du Québec à Montréal   *2017-2019*
- Animation of weekly problem-solving sessions for classrooms of 10 to 80 students: Statistics 1, Probability 2, Analysis 1 & 2, Analysis and Algebra for the Acturarial Sciences, Complex Analysis.

Skills

- Familiarity with R, Python, Javascript & past experience with Java and C/C++ (see olivierbinette.ca/gallery & github.com/OlivierBinette for some examples). Experience with multithreading and parallelization for scientific computing and large simulation studies (mostly in C, Java and Javascript).
- Strong written communication and oral presentation skills (French & English). Presented research talks at national conferences and at universities. Experience writing successful scholarship applications and project proposals, writing papers and reports. See olivierbinette.ca/blog.

Leadership

- Strong proponent of inclusivity and respect in teaching and education. Past ambassador of the Mathematics Program at UQÀM. (2016) Organizer of UQÀM's Probability and Statistics Summer Seminar (2017 & 2018). Co-organized an activity for children at the Montréal Science Center (summer 2018). Co-organizer of UQÀM's Graduate Student Seminar (2018-2019). Co-organizer of the first Statistics Student Summit in Montréal (2019). Developed a student award guide for UQÀM statistics research group. Member of the Statistical Society of Canada's Student and Recent Graduate Committee (2019). Duke Effective Altruism Arete Fellow (2019).