

# CURRICULUM VITAE

## Olivier Binette

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### EDUCATION

2019 – present	<b>Ph.D. Student</b> , Statistical Science, Duke University, Durham, NC Research Assistant with Professor Rebecca Steorts
2017 – 2019	<b>M.Sc.</b> , Mathematics (statistics) Université du Québec à Montréal, Montréal, Qc, Canada
2014 – 2017	<b>B.Sc.</b> , Mathematics Université du Québec à Montréal, Montréal, Qc, Canada

### HONORS AND AWARDS

2019	Natural Sciences and Engineering Research Council (NSERC) Alexander-Graham-Bell Canada Graduate Scholarship (CAD 135,000) Fond de Recherche du Québec - Nature et Technologies (FRQNT) Doctoral Award (CAD 105,000) University of Toronto (FAST) Top Doctoral Award (declined)
2017	NSERC Master Scholarship Award (CAD 21,000) FRQNT's Master Award (CAD 30,000) NSERC Undergraduate Student Research Award (CAD 7,625)
2016	NSERC Undergraduate Student Research Award (CAD 7,625)

### PUBLICATIONS

1. Binette, O. & Steorts, R. C. (2020) (Almost) All of Entity Resolution. *arXiv e-prints*. arxiv:2008.04443.
2. Binette, O.<sup>1</sup> & Pati, D. & Dunson, D. B. (2020) Bayesian Closed Surface Fitting Through Tensor Products. *Journal of Machine Learning Research* 21 (119) pp. 1-26
3. Binette, O. & Steorts, R. C. (2020) Discussion of read paper “Multiple-systems analysis for the quantification of modern slavery: classical and Bayesian approaches” by Bernard Silverman. *Journal of the Royal Statistical Society Series A* 183 (3). pp. 35

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<sup>1</sup>This project was begun by Professor Pati in 2011. I was added as an author in 2017 in order to help with revisions.

4. Binette, O. (2019). A Note on Reverse Pinsker Inequalities. *IEEE Transactions on Information Theory* 65 (7). pp.4094-4096.
5. Binette, O. & Guillotte, S. (2019). Bayesian Nonparametrics for Directional Statistics. *arXiv e-prints*. arxiv:1807.00305.

### **Canadian Student Mathematics Journal**

6. Binette, O. (2018). Topology and Machine Learning. Notes from the Margin 13. pp. 5-6.

## **PRESENTATIONS**

### **Invited talks**

1. *Steorts Lab Meeting (Duke University)*: All of Entity Resolution. Durham, NC (United States). June 20, 2020.
2. *Steorts Lab Meeting (Duke University)*: Probabilistic record linkage: from Dunn’s “Book of Life” to Fellegi-Sunter’s theory. Durham, NC (United States). June 2, 2020.
3. *MLBytes Speaker Series (Duke University)*: Classification and Topology. North Carolina (United States). November 15, 2018.
4. *Texas A&M University*: On Bayesian Nonparametric Estimation of Discontinuous Densities. Texas (United States). November 1, 2018.
5. *Université du Québec à Montréal*: A Circular Analogue to the Bernstein Polynomial Densities, Bayesian Nonparametrics and Large Support Asymptotics. Montréal (Canada). October 4, 2018.
6. *Sherbrooke University*: A Circular Analogue to the Bernstein Polynomial Densities. Sherbrooke (Canada). March 29, 2018.

### **Contributed posters**

1. Binette, O. & Luo, L. An Analysis of Gibbs Posterior Concentration in Terms of the Separation  $\alpha$ -Entropy. Objective Bayes Conference. Warwick (United Kingdom). June 28, 2019.
2. 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.
3. Binette, O. & Coache, A. The Significance of the Adjusted R Squared. (Bio)Statistics Research Day. Montréal (Canada). September 21, 2018.
4. Binette, O. Classification and Topology, or Consequences of Sobolev Consistency. Canadian Statistics Student Conference. Montréal (Canada). June 2, 2018. (Best poster award; 150\$)
5. Binette, O. & Guillotte, S. Semiparametric density modelling for directional statistics. 11th Conference on Bayesian Nonparametrics. Paris (France). June 26, 2017.

## Contributed talks

1. *Statistical Science Graduate Summer Seminar (Duke University)*: Evaluating the accuracy of modern slavery prevalence estimates. Durham, N.C. (United States); held online. July 2, 2020.
2. *Canadian Statistical Students Conference*: Evaluating the accuracy of modern slavery prevalence estimates. Ottawa (Canada); held online. May 30, 2020. Best PhD presentation award (3rd place; 250\$)
3. *Graduate Student Seminar - Université du Québec à Montréal (UQÀM)*: Computing the Hausdorff Alpha-Entropy. Montréal (Canada). July 24, 2018.
4. *Statistics Society of Canada Annual Meeting*: A Circular Analogue to the Bernstein Polynomial Densities. Montréal (Canada). June 4, 2018.
5. *Mathematical Sciences Institute's Student Conference*: Topologie et apprentissage machine. Sherbrooke (Canada). May 25, 2018.
6. *Probability and Statistics Student Seminar - UQÀM*: Information, vraisemblance et divergence. Montréal (Canada). May 17, 2018.
7. *Graduate Student Seminar - UQÀM*: Probabilités en dimension infinie. Montréal (Canada). December 4, 2017.
8. *Mathematical Congress of the Americas*: Bayesian Learning. Montréal (Canada). July 28, 2017.
9. *Probability and Statistics Student Seminar - UQÀM*: Notions d'approximation constructive. Montréal (Canada). May 25, 2017.

## RESEARCH AND PROFESSIONAL EXPERIENCE

1. Data+ Project Manager at Duke's Information Initiative (Summer 2020)
2. Research Assistant with Professor Rebecca C. Steorts at Duke University (2020)
3. Instructional Teaching Assistant at Université du Québec à Montréal (2017-2019):  
*Animation of weekly problem-solving sessions for Statistics I, Probability II, Analysis I & II, Analysis and Algebra for the Actuarial Sciences, Complex Analysis.*
4. NSERC Research Internship (Summer 2017)
5. NSERC Research Internship (Summer 2016)

## PROFESSIONAL SERVICE

**Peer review activities:** *Science Advances* (2), *Journal of the Royal Statistical Society Series A*, *Journal of Survey Statistics and Methodology*, *Journal of the American Statistical Association*.

### Conferences, workshops and other service

- Co-organizer of the Statistical Science Graduate Student Summer Seminar at Duke University (summer 2020).
- Co-moderated the Duke Machine Learning Day (June 8, 2020)
- Project Assistant for The Project Phoenix at Duke University (summer 2020).
- Organizer of Professor Rebecca Steorts research group meetings (summer 2020).
- Co-organizer of the first Statistics Student Summit in Montréal (2019).
- UQÀM Graduate Mathematics Program Board (2018-2019).
- Co-organizer of UQÀM's Graduate Student Seminar (2018-2019).
- Member of the Statistical Society of Canada's Student and Recent Graduate Committee (2019).
- Developed a student scholarship application guide for UQÀM's math department (appeared on [statqam.uqam.ca](http://statqam.uqam.ca), 2019).
- Co-produced a mathematical activity for children at the Montréal Science Center (summer 2018).
- Organizer of UQÀM's Probability and Statistics Summer Seminar (2017 & 2018).