CURRICULUM VITAE

Olivier Binette

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EDUCATION

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

HONORS AND AWARDS

2019	Natural Sciences and Engineering Research Counil (NSERC) Alexander-Graham-Bell Canada Graduate Scholarship (CAD 135,000)
	Fond de Recherche du Québec - Nature et Technologies (FRQNT) Doctoral Award (CAD 105,000)
2017	NSERC Master Scholarship Award (CAD 21,000)
	FRQNT's Master Award (CAD 30,000)
	NSERC Undegraduate Student Research Award (CAD 7,625)
2016	NSERC Undegraduate 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. & 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

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 α-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.

TEACHING AND PROFESSIONAL EXPERIENCE

1. Head Teaching Assistant for STA 360 at Duke University (Fall 2020).

2. Data+ Project Manager at Duke's Information Initiative (Summer 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.

PROFESSIONAL SERVICE

Peer review activities: *Science Advances* (3), *Journal of the Royal Statistical Society Series A*, *Journal of Survey Statistics and Methodology*, *Journal of the American Statistical Association* (2).

Conferences, workshops and other service

- Duke GPSC Community Pantry volunteer; data analysis for the Campus Food Insecurity Symposium (2020).

- Duke Datathon reviewer (Fall 2020).

- PhD Programs Panelist for Duke's Industry Connections Day (October 27, 2020).

- Graduate Consultitative Committee representative at Duke's Department of Statistical Science (2020-2021).

- Volunteer mentor for the Twoples directed reading program (Fall 2020).

- 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 & Fall 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).

- Developped a student scholarship application guide for UQÀM's math department (appeared on 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).

SOFTWARE

On CRAN

- `assert` CRAN R package: lightweight validation tool for checking function arguments and data analysis scripts.

On GitHub

- `OlivierBinette/dgaFast` R package on GitHub: Multiple Systems Estimation Using Decomposable Graphical Models. This re-implements and extends the `dga` R package.

- `OlivierBinette/earthquakes`: 3D visualization using `three.js`. See it running at https://olivierbinette.github.io/earthquakes/.

- `OlivierBinette/Fractals`: Java and HTML/Javascript Fractal visualization applications. See it running at https://olivierbinette.github.io/Fractals/.