

# Olivier Binette

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## Summary

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- 5 years of post-graduate experience in statistics research and data science.
- Strong research background with publications in top journals and several awards.
- Advanced proficiency with the modern datascience toolstack, including Python, R, C/C++, git, bash, Linux.

## Education

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<b>Duke University</b> <i>PhD Candidate, Statistical Science Department (3.9 GPA)</i>	<b>2019 – present</b> <i>Durham, NC</i>
<b>Université du Québec à Montréal</b> <i>BSc, Mathematics; MSc, Statistics (3.97 &amp; 4.0 GPA)</i>	<b>2014 – 2017</b> <i>Montréal, QC</i>

## Data Science and Applied Research Experience

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<b>Data Scientist Intern</b>   <i>Intact Financial Corporation</i>	<b>January 2022 – present</b>
<ul style="list-style-type: none"><li>• Python package development with the data science tooling team.</li></ul>	
<b>Research Coordinator (part time)</b>   <i>Duke Community Food Pantry</i>	<b>May 2021 – present</b>
<ul style="list-style-type: none"><li>• Developed research protocol (adopted by Duke University) to monitor food insecurity on campus.</li><li>• Record linkage, survey design, and data analysis for program assessment.</li></ul>	
<b>Project Assistant (part time)</b>   <i>Wilson Center for Law and Justice at Duke Law</i>	<b>June 2021 – August 2021</b>
<ul style="list-style-type: none"><li>• Wrote R bindings to C libraries for forensic fingerprint matching (<a href="https://github.com/forensic-science/fingermatchR">https://github.com/forensic-science/fingermatchR</a>).</li></ul>	
<b>Data Science Project Manager (part time)</b>   <i>Information Initiative at Duke</i>	<b>June 2021 – August 2021</b>
<ul style="list-style-type: none"><li>• Lead a team of students building a data visualization dashboard for the UC Davis Perinatal Origins of Disparities Center.</li></ul>	
<b>Data Science Project Manager (part time)</b>   <i>Duke Applied Machine Learning Group</i>	<b>January 2021 – May 2021</b>
<ul style="list-style-type: none"><li>• Lead a team of students working on optical character recognition and article segmentation for historical newspaper archives.</li></ul>	
<b>Data Science Project Manager (part time)</b>   <i>Information Initiative at Duke</i>	<b>June 2020 – August 2020</b>
<ul style="list-style-type: none"><li>• Lead a team of students analyzing time series data and geospatial data for the Duke River Center.</li></ul>	

## Scientific Research Experience

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<b>Research Assistant</b>   <i>Duke University, Statistical Science Department</i>	<b>2019 – 2021</b>
<ul style="list-style-type: none"><li>• Binette, O. and Steorts, R. C. (2021) On the Reliability of Multiple Systems Estimation for the Quantification of Modern Slavery. <i>Journal of the Royal Statistical Society Series A</i> (to appear; American Statistical Association best paper award)</li><li>• Binette, O. and Steorts, R. C. (2021) Modern Bayesian Entity Resolution. <i>Wiley StatsRef</i> (to appear)</li><li>• Binette, O. and Steorts, R. C. (2021) (Almost) All of Entity Resolution. <i>Science Advances</i> (to appear)</li></ul>	
<b>Research Assistant</b>   <i>Université du Québec à Montréal</i>	<b>2017 – 2019</b>
<ul style="list-style-type: none"><li>• Binette, O. and Guillotte, S. (2021). Bayesian Nonparametrics for Directional Statistics. <i>Journal of Statistical Planning and Inference</i> 216 pp. 118-134</li><li>• Binette, O. and Pati, D. and Dunson, D. B. (2020) Bayesian Closed Surface Fitting Through Tensor Products. <i>Journal of Machine Learning Research</i> 21 (119) pp. 1-26</li><li>• Binette, O. (2019). A Note on Reverse Pinsker Inequalities. <i>IEEE Transactions on Information Theory</i> 65 (7). pp.4094-4096</li></ul>	

## Leadership, Teaching, and Mentoring Experience

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<b>Webmaster (part time)</b>   <i>ASA Record Linkage Interest Group</i>	<b>November 2021 – present</b>
<ul style="list-style-type: none"><li>• Website and blog development for the organization (<a href="https://recordlinkageig.github.io">recordlinkageig.github.io</a>).</li></ul>	

- Open source developer (part time)** | *Olivier Binette Consulting* **2022 - present**
- Open-source Python and R package development on Github (funded through Github Sponsors).
- Mentor** | *Twoples* **2020 – 2021**
- Mentor college students in semester-long research projects
- Instructional Teaching Assistant** | *Duke University* **2020 – 2021**
- Lead weekly labs for *Bayesian and Modern Statistics*, *Entity Resolution*, and *Introduction to Data Science*.
- Instructional Teaching Assistant** | *Université du Québec à Montréal* **2020 – 2021**
- Lead weekly labs for *Statistics I*, *Analysis I*, *Probability II*, *Complex Analysis*, *Analysis and algebra for the actuarial sciences*, *Analysis II*.

## **Awards**

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- American Statistical Association Best Paper Award (Section on Survey Methods)
- Canada Governor General's Academic Gold Medal
- Stanford University fully-funded PhD admission offer (2019)
- Faculty of Arts and Science Top doctoral award (University of Toronto, 2019)
- Alexander-Graham-Bell Canada Graduate Scholarship (2019; 105 000 \$)
- Fonds de Recherche du Québec - Nature et Technologies Doctoral Award (2019; 84 000 \$)
- Natural Sciences and Engineering Research Council of Canada Masters Award (2017; 21 000 \$)
- Fonds de Recherche du Québec - Nature et Technologies Masters Award (2019; 21 000 \$)

## **Programming and Software Development Skills**

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**Programming:** R, Python, C/C++, git, bash, Linux, slurm

**R packages on Github:** dgaFast, MSETools, assert, cache, fingermatchR, TessTools

**Python packages on Github:** StringCompare, GroupByRule