

## EDUCATION

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- **MSc. Computer Science** McGill University  
*Supervisor: Professor Prakash Panangaden* *May 2021-Present*
- **BSc. Honours Mathematics and Computer Science** McGill University  
*GPA: 4.00/4.00* *Sept. 2018 - May 2021*
  - **Relevant courses:** Honours Data Structures/Algorithm Design, Probabilistic Analysis of Algorithms, Statistical Learning Theory, Markov Chains and Mixing Times, The Probabilistic Method in Combinatorics

## RESEARCH EXPERIENCE

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- **Reinforcement Learning and Stochastic Processes** McGill University  
*Department of Computer Science* *May 2020 - Present*
  - Using Markov chain theory to study the distributional convergence of sample-based reinforcement learning algorithms. Under the supervision of Prakash Panangaden.
- **Probabilistic Analysis of Branching Processes** McGill University  
*Department of Computer Science* *May 2020 - Present*
  - Investigating asymptotics of various properties on Galton-Watson trees. Under the supervision of Luc Devroye.
- **Natural Language Processing and Crisis Management** McGill University  
*Department of Geography* *December 2019 - May 2021*
  - Used natural language processing techniques and network analysis on social media data during extreme weather events in collaboration with Environment and Climate Change Canada (ECCC)

## PUBLICATIONS

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- **Arithmetic subsequences in a random ordering of an additive set.** M Goh, R Zhao. *arXiv preprint 2012.12339*. To appear in Integers: Electronic Journal of Combinatorial Number Theory, 2021.
- **Bridging the gap between supervised classification and unsupervised topic modelling for social-media assisted crisis management.** M Brunila, R Zhao, A Mircea, S Lumley, R Sieber. *arXiv preprint arXiv:2103.11835*. Proceedings of the Second Workshop on Domain Adaptation for NLP, 2021.
- **Using deep learning and social network analysis to understand and manage extreme flooding.** A Romascanu, H Ker, R Sieber, S Greenidge, S Lumley, D Bush, S Morgan, R Zhao, M Brunila. Journal of Contingencies and Crisis Management, Volume 28 Issue 3, 2020.

## SUBMITTED PUBLICATIONS

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- **Leaf multiplicity in a Bienaymé-Galton-Watson tree.** A Brandenberger, L Devroye, M Goh, R Zhao. *arXiv preprint arXiv:2105.12046*, 2021.
- **The independence number of a Bienaymé-Galton-Watson tree and related parameters.** L Devroye, M Goh, R Zhao. *arXiv preprint arXiv:2106.14389*, 2021.

## WORK AND LEADERSHIP EXPERIENCE

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- **Teaching Assistant/Grader** Montreal, QC  
*McGill University* *September 2019 - Present*
  - Grading assignments, midterm and final exams as well as holding weekly office hours
  - TA for the following courses: Theory of Computation (COMP 330)
  - Grader for the following courses: Honours Analysis 3 (MATH 454), Discrete Structures (MATH 240)
- **Vice President Communications, Internal** Montreal, QC  
*McGill Artificial Intelligence Society* *April 2019 - April 2021*
  - Designed main club and hackathon websites using React JS, Javascript/jQuery, and Emotion
  - Managed social media and curated promotional material for event outreach to over 2000 students

## WORK AND LEADERSHIP EXPERIENCE (CONT'D)

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- **Vice President External** Montreal, QC  
*McGill Society of Undergraduate Math Students* *April 2019 - May 2020*
  - Elected to represent math undergraduate student body at Faculty of Science Undergraduate Society meetings
  - Organized community events in collaboration with other departments and Women in Math initiatives
- **AI For Good Summer Lab Fellow** Montreal, QC  
*MILA - Montreal Institute for Learning Algorithms* *May 2019 - June 2019*
  - Selected as one of 30 women across Canada to attend program consisting of instruction, application, and prototype development of deep learning frameworks

## AWARDS

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- **NSERC Canada Graduate Scholarship - Master's - 2021-2022** (\$17,500)
- **NSERC Undergraduate Student Research Award - 2020** (\$7,125)
- **Greville Smith Prestige Scholar - 2018-2021** (\$36,000)  
Four-year renewable scholarship based on academic merit, athletics, and extra-curricular involvement.
- **Loran National Scholarship Finalist - 2018** (\$5,000)  
Top 88 of 5,023 applicants across Canada; chosen on the basis of character, service, and leadership.

## PROGRAMMING SKILLS

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- **Languages:** Python, Java, HTML, Javascript, C  
**Technologies:** React JS, Pytorch, Keras, Pandas, Gensim, Photoshop, Illustrator