Vivian Ngo

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EDUCATION

UNIVERSITY OF TORONTO
MSc in Statistical Sciences
(2019-2020)
Cum. GPA: 4.00 / 4.00
Teaching Assistant, Alumni Mentor

UNIVERSITY OF TORONTO
Honours BSc in
Mathematics and
Statistical Sciences
(2015 - 2019)
Cum. GPA: 3.98 / 4.00
Teaching Assistant,
Research Assistant (Rotman),
Mentorship Director

SKILLS

PROGRAMMING
Python • R • SQL • VBA • LaTeX
Cisco IT Essentials Certified

LIBRARIES/PACKAGES
Python: Pandas • NumPy
Scikit-learn • TensorFlow
Matplotlib • Keras • NLTK
R: Tidyverse • ggplot2 • dplyr
tidybayes • lme4 • mgcv
RStan • MASS • fGarch

LANGUAGES
English • Cantonese • Vietnamese

AWARDS

- Coxeter Scholarship in Mathematics
- Innovator Award (Chengdu 80 Fintech Competition)
- Best Use of External Data Award (ASA DataFest)
- Later Life Learning Scholarship (Top 2% GPA in undergraduate population)
- Samuel Beatty In-Course Scholarship
- Innis College Exceptional Achievement Award
- U of T Scholars Award
- 3rd Place (Innovamasters Engineering and Business Competition)

EXPERIENCE

UNIVERSITY OF TORONTO | Course Instructor, Teaching Assistant
Jan 2019 - Jun 2020 | Toronto, ON

- **Course Instructor** for STA220: The Practice of Statistics I. Topics include exploratory data analysis, probability models, sampling and experimental design, large sample theory, hypothesis testing and one- and two-sample comparative analysis.
- Developed and taught course materials, prepared and administered assessments, and evaluated student performance.
- Independently instructed 150 students and supervised 5 teaching assistants.
- **Teaching Assistant** for STA130, STA255 and STA257 with over 200 students in total.
- Ran weekly tutorials, hosted office hours, prepared classroom materials, graded assignments and presentations, and provided feedback for improvement.
- Software used include R, Xaringan, Crowdmark, Canvas, Excel and RStudio Cloud.

CPP INVESTMENTS | Senior Intern Analyst
May 2019 - Aug 2019 | Toronto, ON

- Performed quantitative research on Portfolio Design team in Total Portfolio Management department with emphasis on feature engineering decisions.
- Conducted impact analysis on Risk model with focus on fixed income securities.
- Assisted in compilation and preparation of reports and presentation materials.
- Software used include Python, GitHub and Excel.

BANK OF MONTREAL | Risk Analyst Intern
May 2018 – Aug 2018 | Toronto, ON

- Analyzed financial data for VP of Technology and Operations Risk to assist with understanding of the Bank's expenditures.
- Built user-friendly applications and ETL pipelines for multiple BMO operating groups to help automate repeated processes.
- Conducted behavioral economics research regarding managerial strategies to improve internal functionality and effectiveness of business implementations.
- Software used include Python and Excel VBA.

PRECIMA, LOYALTYONE | Business Analyst Co-op
May 2017 - Aug 2017 | Toronto, ON

- Extracted, transformed and loaded customer and item-level data for purposes of analysis, reporting, model scoring and maintenance.
- Built statistical functions and automated repetitive processes such as Cramer's V calculations and report production.
- Software used include SQL, Python, Excel and shell scripts.

PROJECTS

PUNCTUATION TRANSCRIPTION MODEL | Jun 2020

- Trained a neural network with bidirectional LSTMS using Keras to automatically restore punctuation marks in unpunctuated text.

COVID AND BACTERIAL PNEUMONIA DETECTOR | May 2020 – Present

- Building a classification tool using deep learning to differentiate between x-ray images of healthy individuals and those with COVID-19 and bacterial pneumonia.

ADAPTIVE MCMC ON MULTIMODAL TARGETS | Jan 2020 – Present

- Developing an adaptive Markov chain Monte Carlo framework to improve local and global proposals for sampling of multimodal targets using gradient-based updates.

SOCIAL AND FOOD–IDEOLOGICAL BIAS | Jan 2020 – Present

- Evaluated trends to search for implicit biases and bias propagation in social networks using the 2019 Yelp Dataset.