Ryan Shi

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Education

University of Toronto Toronto, ON

BSc: Data Science *Sep. 2021 – Jun. 2025*

- **Courses:** Data Science I & II; Algorithm Design, Analysis & Complexity; Methods of Data Analysis I & II; Multivariable Calculus with Proofs; From Genes to Organisms; Software Design
- **Awards:** University of Toronto Scholar, J. S. Maclean Scholarship, Dean's List

Experience

Teaching Assistant Sep. 2023 – Present

Department of Mathematics, University of Toronto *Toronto, ON*

- Involved with first year calculus courses in the Faculties of Applied Science and Engineering, Arts and Science
- Led tutorial sections of up to 70 people, held office hours, invigilated exams, and marked assignments and exams

Textbook Design Assistant May 2023 – Aug. 2023

Department of Mathematics, University of Toronto *Toronto, ON*

- Edited textbook content and materials for a proof-based multivariable calculus course
- Created homework questions using Perl, LaTeX on WeBWorK

Research Student Oct. 2022 – Mar. 2023

Azrieli Adult Neurodevelopmental Center, Center of Addiction and Mental Health *Toronto, ON*

- Cleaned EEG data using MATLAB for a project using PAS-TMS to assess neuroplasticity in adults with ASD and identify potential biomarkers of ASD symptoms
- Created data files to be used in the project's analysis and results

Course Projects

Data Science II | *R* Mar. 2024 – Apr. 2024

- Identified reliable predictors of health complications following surgery in Medicare hospitals using generalized linear models, random forests, and XGBoost

Introduction to Machine Learning | *Python, NumPy, Matplotlib, PyTorch* Jul. 2023 – Aug. 2023

- Extended an item response theory model for a matrix completion problem in the context of personalized education

Methods of Data Analysis I | *R* May 2023 – Jun. 2023

- Created and ensured robustness of linear regression models to determine predictors of hypertension in diabetic individuals

Data Science I | *Python, pandas, NumPy, Matplotlib* Mar. 2023 – Apr. 2023

- Created an NLP logistic regression model to predict sentiments on X / Twitter using only tweet metadata

Software Design | *Java, Git* Sep. 2022 – Dec. 2022

- Created a lightweight social application using clean architecture and object-oriented programming paradigms

Introduction to Statistical Reasoning | *R* Oct. 2021 – Dec. 2021

- Explored patterns, tested hypotheses, and communicated findings for a project on short stories sponsored by the Faculty of Law and Department of English

Technical Skills

Languages: Java, Python, R, C, Bash, LaTeX, SQL, Perl, HTML/CSS
Developer Tools: Git/GitHub, VS Code, RStudio, Jupyter Notebook, Google Colab, MATLAB
Libraries: Tidyverse, pandas, NumPy, SciPy, Matplotlib, sklearn, PyTorch

Extracurriculars

Licentiate & Associate Diplomas of the Royal Conservatory in Piano, Performer Aug. 2021 / Apr. 2019