Richard Shi

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EDUCATION

University of Toronto — Toronto, ON
MSc in Applied Computing, AI Concentration — *Sep 2025–Dec 2026 (expected)*

- Relevant Coursework: Deep Learning: Theory & Data Science, Topics in Machine Learning: Introduction to Causality, State Estimation for Aerospace Vehicles, Visual and Mobile Computing Systems

University of Toronto — Toronto, ON
HBSc with High Distinction, Computer Science Specialist and Mathematics Minor — *Sep 2021–Apr 2025*

- Relevant Coursework: Nonlinear Optimization, Introduction to Artificial Intelligence, Introduction to Machine Learning, Introduction to Image Understanding, Natural Language Computing, Neural Networks & Deep Learning

EXPERIENCE

Undergraduate Machine Learning Research Assistant — Toronto, ON
SysNet Research Group, University of Toronto — *May 2024–Sep 2024*

- Devised a solution to address privacy and performance concerns of federated learning and bottlenecked devices
- Conducted experiments with Python and Flower, a federated learning framework, to quantify the effects of our solution on devices subject to computational and network bottlenecks
- Created and delivered a presentation at the University of Toronto's Department of Computer Science Summer Research Poster Showcase

Software Developer — Toronto, ON
Students Developing Software Team, University of Toronto — *Jan 2023–Sep 2023*

- Contributed to an open-source static code analysis tool called PythonTA through the development of educational features such as visualization of control flow graphs and custom code checkers using Python, Pylint, and astroid
- Maintained codebase through updating documentation, bug fixes, and improving readability for error messages
- Utilized advanced Git features to complete 25 tasks over two semesters

OTHER EXPERIENCE

Mathematics Teaching Assistant — Toronto, ON
Department of Mathematics, University of Toronto — *Sep 2023–Apr 2024, Sep 2024–Apr 2025, Sep 2025–Present*

- Supported overall 200+ students across both single and multivariable theoretical calculus courses through office hours and monitoring online discussion forums
- Led weekly tutorial sessions for a combined 100 students by facilitating group work and discussions
- Efficiently graded 1000+ submissions per assessment and gave detailed feedback to improve student performance

Computer Science Teaching Assistant — Toronto, ON
Department of Computer Science, University of Toronto — *Sep 2025–Present*

- Assisted instructors in assessment preparation by giving feedback to improve the student learning experience
- Led weekly labs for a total of 50 students by monitoring the completion of weekly quizzes
- Supported students during office hours by helping with coding in Python or explaining coding concepts

AWARDS

Dean's List Scholar	2022–2025
University of Toronto Excellence Award	2024
President's Scholar of Excellence	2021