

# XIAOYING (CAMILLA) XUE

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## EDUCATION

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### University of Toronto

Toronto, Canada

- Honours Bachelor of Science, cGPA: 3.94/4.00
  - Computer Science Specialist, Major in Statistical Science
  - Relevant Courses: Operating Systems, Computer Architecture, Parallel Programming, Database System, Algorithm Design, Neural Network and Deep Learning, Methods for Multivariate Data

2021 - Present

## RESEARCH EXPERIENCE

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### High-Performance Data Structures Research Assistant

Toronto, Canada

- *Professor Niv Dayan*
  - Conducted comprehensive benchmarking of **RocksDB** to evaluate and identify read/write bottlenecks across different indexing methods and data configurations.
  - Designed, implemented, and assessed a **minimal perfect hash indexing** technique integrated within the SST data-block read and write pipelines, reducing costly binary search hops and achieving a measurable 5% improvement in read performance.

Fall 2025

### Client-Server Interface Design Research Assistant

Toronto, Canada

- *Professor Qizhen Zhang*
  - Conducted in-depth analysis of **PostgreSQL** codebase to uncover client-server communication pathways and define function semantics for systematic benchmarking of communication latency.

Summer 2025

## WORK EXPERIENCE

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### Software Engineer Intern

Toronto, Canada

- *Quanta Technology*
  - Contributed as a full-stack developer in an **Agile** environment and used **Git** for version control to develop a finite-state-control workflow portal with **React** for the front end and **C#** for the back end, significantly reducing manual overhead and improving operation accuracy.
  - Developed a web-based software tool for utility companies, effectively managing complex and deeply nested tree-structure JSON data to enable robust **CRUD** operations via **RESTful APIs**, and interactive visualization for hierarchical data, significantly enhancing data management efficiency.
  - Collaborated with cross-functional teams to design database solutions that support a smooth transition and scalable handling of over 1 million data records, implementing **PL/SQL** procedures and triggers to automate business processes and ensure data integrity.

Summer 2024 – Fall 2025

## RELEVANT EXPERIENCE

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### Pet Adoption Website Developer

Toronto, Canada

- *Computer Science Team Project*
  - Planned and designed UI/UX workflows using **HTML**, **CSS**, and **JavaScript**, implemented a dynamic front-end with **React** to deliver a responsive user experience.
  - Developed **RESTful** web services using **Django REST Framework**, extending back-end functionality to support CRUD operations across multiple user roles with custom **Python** code.
  - Performed API quality assurance using **Postman** to test request methods, input validation, and access permissions, ensuring robust and secure back-end interactions.

Fall 2023

## TEACHING & OUTREACH

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### Teaching Assistant

Toronto, Canada

- STA130: An Introduction to Statistical Reasoning and Data Science
  - Hosted weekly 2-hour tutorials for a group of 25 students, assisted students' research projects.

Fall 2025, Winter 2024

### Volunteer Highschool Mentor

Toronto, Canada

- WICS (Women in Computer Science)
  - Held regular one-on-one mentoring sessions with high school students to provide academic support.

Fall 2023

## SKILLS

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- **Programming Languages:** C, C++, C#, Java, TypeScript, JavaScript, Python, R, SQL, HTML, CSS
- **Frameworks & Libraries:** React, Bootstrap, Django, NumPy, Pandas