

# Pirooz Barkoosaraei

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## Education

### University of Toronto

September 2021 — June 2026

*Honours Bachelor of Science in Computer Science*

Toronto, ON

- **Cumulative GPA: 3.5/4.0**, 2021 and 2024 Dean's List.
- **Relevant Coursework:** Data Structures & Algorithms, Machine Learning, Software Design, Operating Systems, Artificial Intelligence, Web Development, Algorithm Design and Analysis.
- **Activities:** Computer Science Students' Union Council member and Executive member in the Powerlifting club.

## Experience

### University of Toronto

May 2023 — April 2025

*Machine Learning Research Assistant*

Toronto, ON

- Contributed to the development of simulated data of the visual cortex for a cognitive neuroscience **research paper**, collaborating with the CoNSens Lab supervised by **Professor Matthias Niemeier**.
- Developed an object recognition model achieving up to a **96% validation accuracy** by using a **Convolution Neural Network** model in **PyTorch** simulating the visual cortex for a task done in a psychological research experiment.
- **Analyzed research papers** to gain deeper insights into **attention modulation** and other **fine-tuning practices** in **computer vision** and then leveraged these findings to refine and optimize my model.

### Wayfair Canada

June 2024 — August 2024

*Software Engineer Intern*

Toronto, ON

- Collaborated with stakeholders to help streamline the process of **training and fine-tuning Machine Learning models** as part of the ML Platforms team, improving the efficiency for **over 150 clients** on the Data Science team.
- Assisted in debugging and developing internal database software and cloud infrastructure, using the **Google Cloud Platform** and **Datadog** to monitor the database and ensure secure and accurate data storage for ML models.
- Discovered and resolved a concurrency bug in an internal database for Machine Learning models and datasets, resulting in a **300% improvement** in performance and a **50% reduction** in error rates.

### Microsoft (Nuance Communications)

September 2022 — December 2022

*Software Engineer Intern*

Montreal, QC

- Debugged and refined an internal employee web portal utilizing **JavaScript** and the **React** framework, while collaborating with cross-functional teams such as the UI/UX and QA teams.
- Led the development of a **React Native** mobile app for an internal **Microsoft Hackathon**, creating an autonomous shopping experience akin to Amazon Go, eliminating the need for cashier assistance.

### Equifax Canada

May 2022 — August 2022

*Quality Engineer Intern*

Toronto, ON

- Conducted comprehensive tests using **Microsoft Excel** and the **Postman API**, validating the successful migration of all user data to a **Google Cloud** database, ensuring **100% accuracy**.
- Contributed to quality assurance throughout the **Software Development Cycle (SDLC)**, excelling in identifying and reporting issues during data synchronization.

### Kidney Health Education and Research Group

October 2021 — April 2022

*Python Developer*

Toronto, ON

- Engineered back-end scripts using the **Pandas** and **Requests** libraries to extract and transform raw survey data from organ transplant patients into structured, actionable insights for research.
- Collaborated with the data team to achieve an impressive **95% accuracy** rate in data collection and processing.

## Technical Skills

**Languages:** Python, JavaScript, TypeScript, HTML/CSS, SQL, Java, C, C++, C#

**Frameworks and Libraries:** Next.js, React.js, PyTorch, Django, Bootstrap, NumPy, Pandas, Node.js

**Technologies:** GitHub, REST APIs, MySQL, MongoDB, Firebase, Excel, Docker, Google Cloud Platform, Kubernetes