Pirooz Barkoosaraei

647-774-4891 | piroozsab@gmail.com | linkedin.com/in/piroozb | github.com/piroozb |

Education

University of Toronto September 2021 — December 2025
Honours Bachelor of Science in Computer Science *Toronto, ON*

- **Cumulative GPA: 3.6/4.0**, 2024 Dean's List
- **Relevant Coursework:** Data Structures & Algorithms, Software Design, Operating Systems, Artificial Intelligence, Machine Learning, Web Development, Software Design, Computer Vision, Algorithm Design and Analysis
- **Activities:** Council member of the Computer Science Student's Union and personal trainer in the Fitness Club

Experience

University of Toronto May 2023 — Present
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 a **Convolution Neural Network** model in **PyTorch** based on **VGG-16**, achieving impressive results with up to a **96% validation accuracy** to simulate an object recognition task used 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