Pirooz Barkoosaraei

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Education

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

- **Relevant Coursework:** Data Structures & Analysis, Software Design, Systems Programming, Artificial Intelligence
- **Awards & Activities: 3.6/4.0 GPA**, 2024 Dean's List, Computer Science Student's Union (CSSU), Gym & Fitness Club

Experience

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 Messaging & ML Platforms team, improving the efficiency of over **150** clients on the Data Science team when adjusting and deploying models to the Wayfair platform.
- Assisted in debugging and developing internal databases and database software, using the **Google Cloud Platform** and **Datadog** to monitor the database and ensure secure and accurate data storage for users and 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.

University of Toronto   May 2023 — August 2024
Machine Learning Research Assistant   *Toronto, ON*

- Contributed to the development of simulated data of the visual cortex for a cognitive neuroscience **research paper** of a distinguished Ph.D. candidate, collaborating with the CoNSens Lab led 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.

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#
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