

EDUCATION

- **UNIVERSITY OF TORONTO** Mississauga, ON
Honours Bachelors of Science - Computer Science, Mathematics and Statistics & PEY Co-op Sep. 2022 - May. 2027
- **Relevant Coursework:**
Software Design, Software Tools and Systems Programming, Data Structures and Analysis, Software Engineering

EXPERIENCE

- **AIP Labs** Mississauga, ON
Machine Learning Engineer Intern Jun. 2024 - Sep. 2024
 - **End-to-end ML Pipeline:** Curated and analyzed over 200,000 medical images, trained deep neural networks, evaluated model performance, and refined the training pipeline (achieving a 1.5x improvement in precision and recall metrics across classes).
 - **Dataset Analysis:** Conducted image similarity and retrieval tasks (cosine image similarity, feature extractor) on large datasets to identify and resolve issues, ensuring accurate image curation.
 - **Image Classification:** Developed and trained advanced image classifiers using state-of-the-art models like ResNet, achieving over 98% precision and recall in a 3-way classifier for macroscopic, dermoscopic, and non-skin images.
 - **Technical Expertise:** Hands-on experience with PyTorch, PyTorch Lightning, & Scikit-Learn for model development; conducted data analysis using Pandas & NumPy and visualized results with Matplotlib.

PROJECTS

- **Academic Planner Full Stack Web Application** *Jan. 2025 - Present*
 - * **Team Collaboration:** Managed and collaborated with a team of 7 using Jira for agile project management, ensuring efficient task delegation, tracking, and communication across all stages of development as sprint leader.
 - * **Front-End Development:** Built an intuitive and aesthetic frontend using ReactJS and NextJS, focusing on user experience and responsive design tailored to students' needs.
 - * **Microservices Architecture:** Designed and implemented scalable and modular backend services to support academic planning features such as course scheduling, deadline tracking, and progress visualization.
 - * **Interdisciplinary Coordination:** Fostered a collaborative environment by conducting regular sprint reviews, stand-ups, and retrospectives, enhancing team productivity and synergy.
 - * **Tools and Technologies:** Utilized Docker for containerization, Node.js for backend development, and PostgreSQL with Prisma for database management.
- **Receipt OCR Application** *Aug. 2024*
 - * **Automated Text Extraction:** Utilized OpenCV and PyTesseract to extract and process text from over 1,000 images, achieving a 90% accuracy in data extraction tasks.
 - * **Correcting Textual Errors with LLMs:** Integrated Large Language Models (LLMs) to automatically correct errors in OCR-extracted text, improving overall text accuracy and readability.
 - * **Pattern Matching with Regex:** Applied regular expressions to extract and validate specific patterns like amounts and product names from the processed text.
 - * **Optimized Image Preprocessing:** Improved image preprocessing steps, leading to a 30% increase in text detection accuracy, ensuring optimal recognition even in low-resolution or noisy images.
- **Accessible Adventure Game** *Sep. 2023 - Dec. 2023*
 - * **Java Application Development:** Utilized Java and JavaFX to develop an accessible-oriented adventure game, applying SOLID design principles to practical scenarios.
 - * **Scrum Experience:** Participated in 6 Scrum sprints, enhancing skills in project management, teamwork, and iterative development.

- * **Problem-Solving and Critical Thinking:** Cultivated problem-solving abilities and critical thinking through tackling complex software challenges when developing.
- * **Git Version Control and Conceptual Thinking:** Demonstrated conceptual thinking in object-oriented software design and mastered version control for effective code repository management with branches and merges.

TECHNICAL SKILLS

- **Languages:** Java, Python, C, C++, C#, HTML, CSS, JavaScript, TypeScript
- **Frameworks & Libraries:** ReactJS, NextJS, NodeJS, PyTorch, PyTorch Lightning, Scikit-Learn, OpenCV, PyTesseract, NumPy, Pandas, Matplotlib, JavaFX, TKinter
- **Tools & Technologies:** Git, Docker, PostgreSQL, Prisma, REST API, Heroku, Linux, OpenAI API, Unity