

Emma (Ning Xu) Fu

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EDUCATION

University of Toronto

Toronto, ON

Bachelor of Applied Science & Engineering - Computer Engineering

Sept. 2019 – May 2024

- Artificial Intelligence Minor, Engineering Business Certificate, **cGPA 3.71/4.0**
- **Relevant Courses:** Operating Systems, Algorithms & Data Structure, Applied Fundamentals of Machine Learning, Software Engineering, Intro to Image Understanding, Computer Security, Computer Networks

TECHNICAL SKILLS

Languages: Python, C++, C, PostgreSQL, MATLAB

Libraries/Frameworks: PyTorch, TensorFlow, Matplotlib, pandas, NumPy, scikit-learn

Developer Tools: Git, Linux, Jira, Confluence, STM32Cube, Figma, Docker, Apache Airflow, Simulink

EXPERIENCE

Project Coordinator

May 2023 – Present

University of Toronto - Enterprise Applications and Solutions Integration

Toronto, ON

- Coordinated project activities and scoped out clear project roadmaps and initiatives with cross-functional teams
- Applied **Agile management principles** for increased productivity, team learning and risk mitigation
- Adapted project plans and priorities based on changing business needs and client feedback to ensure advancement

Software Engineer

May 2022 – April 2023

Advanced Micro Devices - Datacenter GPU Power Management Firmware

Markham, ON

- Expanded software infrastructure in Python to execute automated script testing for **70+ power firmware features**
- Integrated 15+ CPU/GPU workloads into software infrastructure to conduct power management feature testing and long-duration stress test during **silicon bringup**
- Developed a **data analysis & visualization program** via pandas, NumPy & Matplotlib to assess chip performance
- Initiated **machine learning** project to predict chip performance scores based on test parameters and system setup
- Collaborated closely with hardware, firmware and software teams to root-cause issues for a complex chip design
- Coordinated 11 engineers via Jira & Confluence to deliver 50+ regression scripts for safe firmware feature enablement

Engineering Student Ambassador

Sep. 2021 – April 2022

University of Toronto - Engineering Student Recruitment and Retention Office

Toronto, ON

- Organized and facilitated recruitment events with 300+ prospective students globally
- Conducted research, and gathered and analyzed data to identify and present solutions for gaps in student resource
- Facilitated support programs for prospective students, including advising appointments and material preparation

PROJECTS

Blue Sky Solar Racing | C, Python, STM32

Sept. 2022 – April 2023

- Applied C embedded programming to steering wheel logic, motor regeneration and Battery Management System
- Optimized performance using multi-threading to poll and send data for steering wheel and battery management
- Converted C code for the Battery Management System into Python using object-oriented programming and python-periphery for interfacing with external peripherals

Face-2-Face | Python, PyTorch, OpenCV

Jan 2022 – April 2022

- Developed machine learning models for image multi-class classification on human emotions with 70% validation accuracy using PyTorch and transfer learning with AlexNet and ResNet18
- Implemented real-time video capture and overlay predicted emotion's emoji on live camera feed using OpenCV
- Increased accuracy by 15% by applying data balancing, normalization, and augmentation on the dataset

Mappyboi – Interactive Map Application | C++, Git, Glade Interface Designer, GTK

Jan 2021 – April 2021

- Developed a Geographic Information System program with map display, pathfinding, location search and filtering
- Implemented greedy and Dijkstra's algorithm to find the optimal path between multiple intersections
- Created GUI using Glade Interface Designer and GTK Toolkit to allow user interaction with application features