

# YUFENG LIU

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## Education

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### Carleton University

B.S. in Computer Science, AI/ML Stream, Co-op, 3.71/4 GPA

Ottawa, ON

Sept 2022 - Apr 2027

- Third Year Standing, Available for 3 months beginning June 2026

## Technical Skills

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**Languages:** Python, Java, C/C++, Typescript/JavaScript, HTML/CSS, SQL/PostgreSQL

**Developer Tools:** Git, Terminal, Unix/Linux, VSCode, Figma, CI/CD Pipeline, ORMs, JIRA, Agile, BitBucket

**Technologies/Frameworks:** NumPy, pandas, React, Node.js, Selenium, Express.js, Prisma, PyTorch, TensorFlow, Keras

## Experience

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### Planetary Robotics Intern

Canadian Space Agency

Montreal, QC

Sept. 2025 - Dec. 2025

- Incoming Planetary Robotics Intern Fall 2025

### Software Engineer Intern | *Python, Next.js, pandas*

Blackberry QNX

Ottawa, ON

May 2025 - Aug. 2025

- **Developed first-ever dependency visualization tool for QNX's 4400 binaries across 3 versions (QNX700/710/800)**, enabling internal developers to instantly identify impact of code changes
- Reduced dependency discovery time by 90% and **optimized data scraping from 40 hours to 20 minutes (120x faster)** through multithreading and batch processing

### Software Engineer Intern | *Python, pandas, NumPy, HuggingFace, BitBucket, JIRA*

Ciena

Ottawa, ON

Sept 2024 - Dec 2024

- Pioneered and implemented Ciena's **first-ever locally-hosted syslog analysis AI system** using **Hugging Face's Transformers API** to fine-tune a Large Language Model (*led-large-16384*), achieving a **96% performance improvement** over the base model, enabling automated interpretation of thousands of technical error messages
- Architected a robust data pipeline for AI training by developing a Python-based **templating system** to reverse engineer syslog patterns, enabling scalable synthetic data generation and dramatically expanding the training dataset

### Volunteer Software Developer | *HTML/CSS, Javascript, Prisma, Node.js, PostgreSQL, Jest*

Carleton Blueprint

Ottawa, ON

May 2024 - Dec 2024

- Engineered a sophisticated student-mentor matching system using **Prisma ORM** and **PostgreSQL**, optimizing academic support by efficiently pairing struggling students with appropriate mentors
- Implemented comprehensive unit testing suite with **Jest**, ensuring robust data integrity and accurate instantiation in the PostgreSQL database via Prisma ORM, significantly enhancing system reliability and performance

## Personal Projects

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### Artificial Intelligence / ML | *Python, Selenium, pandas, NumPy, Tensorflow, PyTorch*

- Engineered a **web scraper leveraging Large Language Model** to extract data from websites, implementing advanced preprocessing techniques that optimized tokenization efficiency and reduced token costs by approximately **10x**
- Implemented a **Linear Regression** model to analyze housing data, incorporating **Z-score normalization** and **gradient descent** algorithms; achieving an accurate model to predict local housing data off of 4 inputs
- Architected and constructed a custom **Neural Network** and **Large Language Model** from the ground up using **TensorFlow** and **PyTorch**, in order to fully understand Deep Learning principles including backpropagation, activation functions, and model optimization techniques

### SPUT - Simple Programmable Universal Terrier ([Link](#)) | *Python, Raspberry Pi, ROS2, Fusion360*

- Architecting an **autonomous robotic dog from scratch** including 3D mechanical design in Fusion360, servo control systems, computer vision integration with OpenCV, and complex inverse kinematics algorithms for coordinated multi-limb movement and obstacle navigation