

YUFENG LIU

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Education

Carleton University

Ottawa, ON

B.S. in Computer Science, AI Stream, Co-op, Biology Minor, 3.67 GPA (A+)

Sept 2022 - Apr 2026

- Third Year Standing, Available for 4 months beginning May 2025
- **Relevant Courses:** Intro to Object Oriented Programming, Fundamentals of Web Applications, Database Management Systems, Intro to Systems Programming, Intro to Software Eng., Data Structures & Algorithms, Intro to Robotics

Technical Skills

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

Developer Tools: Git, Terminal, Linux, VSCode, Figma, CI/CD Pipeline, ORMs, MongoDB

Technologies/Frameworks: NumPy, pandas, React, Node.js, Selenium, Express.js, Prisma, PyTorch, Numpy

Experience

Ciena

Ottawa, ON

Software Engineering Intern

Sept 2024 - Dec 2024

- Implemented Python scripts using **pandas** to preprocess data from log files to send to machine learning models

Carleton Blueprint

Ottawa, ON

Software Developer

May 2024 - Sept 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

Payment Evolution

Toronto, ON

Part Time Research Assistant

May 2023 - Dec 2023

- Created diverse datasets by developing a **Python script** to enhance an Optical Character Recognition system's accuracy and efficiency by nearly **20%**
- Developed a guideline for Neo4j syntax, by constructing graphical databases to investigate their interactions and acquiring proficiency in the Neo4j coding language, **Cypher**

Personal Projects

RHYTHM-REALM | *MongoDB, Express.js, React, Node.js, Javascript, HTML/CSS*

- Developed a web application, aimed at creating a **community-driven platform** for music enthusiasts by utilizing the **MERN tech stack** to build a scalable and efficient backend capable of storing and retrieving music data, enabling users to share thousands of songs through **Spotify's API**, leading to a highly interactive platform
- Designed and integrated a security feature that safeguards user credentials by implementing a hashing algorithm to encrypt user passwords before storing them in the database, ensuring enhanced security

PULSE-PERFORMANCE | *React, Drizzle, Fastify, Javascript, HTML/CSS*

- Collaborated with another developer to build and deploy a **full stack** gym application, that allows employees to manage class scheduling, members to sign up for classes and have member specific information, and administrative functionality
- Engineered a sophisticated database, significantly enhancing operational efficiency through streamlining management of members, trainers, and admins, along with an efficient middleware service to route requests sent from the React front-end

MACHINE LEARNING / AI | *Python, Selenium, pandas, NumPy, Tensorflow*

- Engineered a web scraper leveraging **Large Language Models (LLMs)** to extract data from websites, implementing advanced preprocessing techniques that optimized tokenization efficiency and reduced token costs by approximately **90%**
- Developed and 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**, demonstrating profound understanding of Deep Learning principles including backpropagation, activation functions, and model optimization techniques