

John Ma

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Education

BSc in Computer Science and Statistics
Specialist Program in Machine Learning and Data Science

University of Toronto

GPA: 3.5

expecting April 2025

Relevant Experiences

Research Assistant

June 2024 - August 2024

University of Toronto

- Cooperated with engineers and fellow researchers to design a model for estimating biomass.
- Researched and implemented relevant academic literature (MATLAB, PyTorch, JAX) for statistical and machine learning models to estimate biomass from images.
- Contributed to the data collection protocol for the model.

Machine Learning Engineer

Sept 2023 - Current

UTAT Space Systems

- Wrote Python scripts to create distributions synthesizing stripes and noise on hyperspectral images to train a 3D diffusion model.
- Debugged CUDA and Python dependency issues in older models, resulting in a more comprehensive overview of past methods.
- Co-authored a paper proposing a novel model using 3D-diffusion to destripe and denoise remote sensing images, presented at the SmallSat Conference 2024.

Hackathon Mentor

May 2023

MetHacks

- Taught participants how to utilize popular JavaScript and Python libraries (e.g., React, TensorFlow) for their hackathon projects.
- Mentored teams resulting in ~ 90% of them completing functional prototypes by the end of the event.

Build Infrastructure Developer

Sept 2021 - Dec 2021

Blackberry QNX

- Migrated old Jenkins jobs from VMs to Docker, freeing ~ 95% of resources for system updates.
- Automated container documentation with clean, efficient, bash and Python scripts.
- Developed a new plugin to replace an unreliable Jenkins function, achieving a solution with ~ 95% uptime making it significantly increasing the reliability of jobs and pipelines
- Contributed to code reviews for QNX, verifying that the code is functional and robust

Projects

Drone Detection and Position Prediction model (YOLOV8 and a LSTM) (Paper upon request)

A trained model for detecting position of drones and predicting their trajectories

Remote-Sensing Hyperspectral Image Denoising and Destriping model (Oral, Paper & Code)

A machine learning model that denoises and destripes hyperspectral images using 3D-diffusion, presented at SmallSat 2024

Intelliverse (A 3-Layered Architecture Smart Phone Application)

A hackathon winning smart-phone application helping people understand the sentiment behind texts, with a screenshot.

Made using TypeScript, ReactJs, NodeJs, mongoose, MongoDB, GraphQL

Soccer Robot

Written in C, a winning robot for RoboSoccer Competition (Code and videos available upon request)

Technical Skills

Languages: C/C++, Java, Python, Javascript/Typescript, HTML+CSS

Libraries/Frameworks/DB : PyTorch, Keras, Tensorflow, JAX, Nodejs, ReactJs, MongoDB, Firebase, Relational Database(mysql)

Dev Tools: Docker, Docker-swarm, Jenkins, Git, SVN

Relevant Coursework: Data Structures & Algorithms, Operating Systems, Object Oriented Programming, Database Management System, Software Engineering.

Soft Skills: Problem Solving, Self-learning, Presentation, Adaptability

Achievements & Certifications

ScoreSpace 30 Game Jam 1st Place Winner (Developer's Choice)

(2024)

Fundamentals of Accelerated Computing with CUDA C/C++ certificate from NVidia

(2023)

DS3 Datathon Finalist

(2023)

Hack The Valley 7 - Top 5 Hacks, Best Discovery Hack, Most Creative Use of Github

(2022)