




David Shan

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Profiles

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Awards

Fellow

Telora

May 2024

Funded for **\$25,000** to build a startup in Miami.

FRC Championships Division Finalist

First Robotics Competition

March 2023

Placed within the **top 2% of 3,286** teams

Big Data Challenge Winner

STEM Fellowship

January 2024

Winner of **\$1000** through a wildfire prediction system based on raster data

Coyote's Lair Funding

Coyote's Lair

June 2024

Funded for **\$3,000** to build a watch for families with elderly to have peace of mind.

2 Time AIME Qualifer

Mathematical Association of America

November 2023

Qualified for AIME in both Grades 10 and 11 doing both AMC 10 and AMC 12 with scores **105 and 100.5**

CCC Senior Honour Roll

University of Waterloo

March 2024

Achieved **top 4%** out of the 4,000 CCC Senior Competitors in 2024

USACO Gold Division

USACO

January 2023

Top **25% of all 4408** participants in the USACO Silver Division Contest

Skills

Web Development

Jest, React, Electron, Backbone, Typescript, Javascript, Selenium

Project Management

Jira, Git, Agile

Machine Learning

Numpy, OpenCV, Tensorflow, Python, Jupyter

Database

MySQL, Big Query, Firebase, Neo4J

Experience

Kellis Lab @ MIT Computer Science & Artificial Intelligence Laboratory

Core Engineer & Leadership Team @ MANTIS

Cambridge, Massachusetts

December 2024 - Present

- Implementing agentic workflow to MANTIS via websockets and langgraph
- Helping onboard MIT UROP (undergraduate research opportunity program) students to MANTIS
- Creating general features like voice recognition and performing bug fixes like repairing broken pytests

Geotab

Software Developer Intern

Oakville, Canada

June 2023 - August 2023 & June 2024 - August 2024

- Developed React App to validate JSON compliance data through Puppeteer and Jest to support the product team in helping customers
- Implemented Web Workers and Indexed Database in Typescript to thread logging to decrease CPU consumption
- Streamlined developer process by migrating QUnit tests to jest, added stricter type checking and fixed failing Selenium tests

FRC Team 610

Head of Programming & Technician

Toronto, Ontario

September 2023 - Present

- Oversaw the workflow for all **6 programmers** to ensure code quality and robot efficiency
- Designed the project management framework for Team 610 to improve communication and flexibility
- Programmed an auto-balancing algorithm in Java using PIDs
- Developed multiple classes to control the arm, drivetrain, and vision to maximize performance

Education

Crescent School

High School

September 2021 - June 2025

Current Grade 12 student at Crescent School. Head of Data Science Club, Head of CS Club, Head of Math Club, Varsity Cross-Country, Ultimate Frisbee