Shaoming Wu

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Professional Summary

Aspiring robotics engineer with experience in full-stack development, control loops, and localization methods for accurate motion in drivetrain systems.

Education

Milliken Mills High School September 2022 – June 2026
IB Programme *Markham, ON*

Experience

Co-Founder and Technical Lead May 2024 – Present
Altura Robotics (VEX Robotics Team 1165A) *Markham, ON*

- Led development team of 12 members creating technical documentation and coding standards for 100% code review compliance
- Developed C++ embedded software **improving autonomous accuracy by 40%** and reducing debugging time by 50%
- Hosted a **40-team tournament featuring 100+ students** to promote engagement in Vex IQ robotics. Coordinated **20+ volunteers** to ensure seamless operations, achieving consistent schedules throughout the event.

Outreach Officer September 2021 – May 2024
Hack Canada *Waterloo, ON*

- Secured sponsorships to support operations for a 400-person hackathon event
- Collaborated with an organizing team of 30 to oversee event operations as well as backend logistics

Projects

Smooth Particle Hydrodynamics Simulator | *Python, NumPy* Mar 2025

- Collaborated with PhD students to investigate **smooth-particle-hydrodynamics** on Google Colab and Jupyter Notebook
- Simulated **100+ particles for 205% increased processing speed**

helpidontknowhowtonetworkin.tech | *MERN Stack, TensorFlow* May 2025

- Developed fullstack face recognition app with 95% accuracy using TypeScript, Node.js, Express.js, and MongoDB
- Implemented continuous integration pipeline with 100% automated test coverage and comprehensive API documentation
- Recipient of the **Best Use of Generative AI at JAMHacks 9**

SupplyMe | *Django REST API, Flutter, MongoDB* May 2025

- Constructed a vector embedding search database tool with **90% search accuracy**
- Developed front-end interface with Flutter, leading to load times of $<$ **5ms**

shao-lib | *C++* Jan 2026

- Developed an **Unscented Kalman Filter** for state estimation in VEX Robotics. Minimized state estimate error by 10x
- Used 4 LiDAR sensors, 2 IMUs and a rotation sensor for position tracking. Integrated **sensor fusion for accuracy-based weightings**, improving accuracy by 210%.

Technical Skills

Languages: JavaScript, React, Python, C/C++, HTML/CSS, TypeScript
Frameworks & Libraries: Express.js, Node.js, Django, Flutter, TensorFlow, PostgreSQL
Databases: MongoDB, MongoDB Atlas, Supabase
CAD Software: Onshape, Inventor, Fusion 360