

James Ye

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TECHNICAL SKILLS AND PORTFOLIO

Languages: Python, C, Java, JavaScript, HTML/CSS, MATLAB

Frameworks, Tools Libraries: OpenCV, NumPy, Node.js, Three.js, 3D-printing, SolidWorks, Fusion 360, Onshape

Others: Proficiency in Microsoft Office apps, including Excel, Word, and Powerpoint

Portfolio: jamestakuro.netlify.app

EDUCATION

University of Toronto

Toronto, ON

Candidate for Bachelor of Applied Science, Mechanical Engineering

Sept. 2021 – May 2025

EXPERIENCE

Eye Tracking Development Engineer

March 2021 – Dec 2022

Oakville Centre for Vision (Contract)

Oakville, ON

- Prototyped versions of glaze tracking glasses using **Fusion360, 3D printing, and soldering** that eliminated tracking failure with over 225% improvement in pixels and frame-rates
- Reduce calibration failure by 300% **Pupil Capture, and OpenCV** by adding virtual reference surfaces plugins
- Collaborated in a 3 developer team and took heavy responsibility in the research and development of the glasses
- Built additional complementary heart rate, hand-eye coordination, and prescription devices for in-depth analysis of patients

Mechanical Team Leader

Sep. 2019 – Aug 2021

FIRST Robotics Team 1360

Oakville, ON

- Led over 20 junior robot designers and learned from industries-leading mentors
- Designed and fabricated award winning robots with **SolidWorks** and in-house machinery
- Certified in SolidWorks and taught robotics members CAD and design process fundamentals

Front End Web Developer

May 2021 – Aug 2021

Ontario Youth Medical Society

Oakville, ON

- Designed the website from the ground up with 5 developers and met with stakeholders to evaluate and meet their requirements on time
- Developed the website with responsive design practices using **HTML, CSS, and JavaScript**
- Integrated Spotify, Google, and other podcast platforms to improve user experience by giving them options

PROJECTS

Navigation Essential Watch | *MakeUofT 2022 Hackathon*

Feb 2022

- Fabricated and programmed wearable smart watch for the disabled and elderly to detect fall, obstacles, and irregular heart pulses, then it calls for help when accident occurs
- Built with Arduino and programmed in **C++** all within 8 hours
- Maintained the cost to be inexpensive and less than \$100 dollar throughout the project

Future Pharmaceutical "Solutions" | *SHAD Valley 2020 Design Project*

July 2020

- Developed a prototype that tests medication dissolving characteristics for testing in space to better understand medication for future astronauts
- Led a group of 10 other individuals by formulating mechanism design and research topics
- Optimized designed in a confining 10x10x20 cm space using SolidWorks while keeping design under \$100

3D Printed RC Car | *Personal Project*

Aug 2020

- Explored alternative inexpensive customizable RC Cars by designing a 3D printed chassis in **Onshape**
- Built RC Car from scratch by ordering, **soldering, 3D printing**, and programming all the components
- Printed and made improvement to chassis resulting in over 200% increase in driving time compared to the first model before failure

CERTIFICATION

Certified SolidWorks Professional: Credential ID: C-MR2SHB5NTK