

Justin Tian Xi

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EDUCATION

University of Michigan

Ann Arbor, MI

College of Engineering: Sophomore, B.S.E. in Computer Engineering

Year of Graduation: 2029

- Cumulative GPA: 3.5/4.0
- Academic Honors: University Honor, Dean's List
- Relevant Coursework: Programming & Data Structures, Digital Logic Design, Discrete Mathematics, Linear Algebra, Differential Equations, Statistics

RELEVANT EXPERIENCE

Michigan Task Based Robotics(MTBR)

Ann Arbor, MI

Software & Electronics Lead

August 2025 - Present

- Worked across software and electronics subteams on projects including computer vision and sensor integration
- Integrated projects into large workflow using GitHub and Google Suite
- Prepared documentation and presented to engineers on the design process, feasibility, and advantages of different control algorithm approaches.
- Wrote and tuned PID and Pure Pursuit control algorithms for robot and subsystem movement

University of Pennsylvania — Nanotechnology Research

Philadelphia, PA

Research Program

July 2023

- Conducted hands-on research in a cleanroom environment over a month-long program at the University of Pennsylvania
- Investigated microfluidics, quantum dots, and semiconductor fabrication by analyzing how silicon etching time affects fabricated structures, selenium concentration influences quantum-dot optical properties, and microfluidic channel geometry impacts mixing behavior.

PROJECT EXPERIENCE

Machine Learning, Bag-of-Words Statistical Model, C++

- Automatically identify the subjects and tags of text posts using language processing and AI
- Implemented and utilized dynamic data structures to reduce memory use and runtime

Laser Odometry Verification System, C++

- Developed an autonomous odometry verification system using distance sensors to continuously correct robot position and synchronize with the primary position-tracking system
- Implemented sensor filtering and synchronization to improve localization accuracy

HONORS AND AWARDS

Royal Canadian Sea Cadet, 105 RCSCC Lonsdale Corp

Vancouver, Canada

Chief Petty Officer Second Class(CPO2)

2020-2025

- Received the Royal Canadian Legion Medal of Excellence, Sea Cadet Service Medal (6 years of service), and Duke of Edinburgh's International Award – Silver Standard for demonstrated leadership and service.

TECHNICAL SKILLS & ACHIEVEMENTS

- **Computer Skills:** C++, Java, Python, Verilog, MATLAB
- **Manufacturing Skills:** Proficient in manufacturing tools such as laser cutting, waterjet cutting, and 3D printing
- **Robotics Awards:**
 - VEX Robotics World Championship Qualifier (2023,2024, 2025)
 - VEX Robotics World Championship Think Award – awarded to only 8 teams worldwide annually for excellence in autonomous programming, clean and reliable code design, and well-documented engineering and version control.
- **Languages:** English, Mandarin