

# Po Cheng (Henry) Chen

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## Objective

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Robotics enthusiast with eight years of experience in designing robots and developing algorithms for time-critical systems. Founder of Skywalker Robotics, dedicated to expanding robotics education in New Zealand. Passionate about pursuing a career in planning, controls, computer vision, embedded systems, and low-level programming.

## Education

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**Georgia Institute of Technology | Atlanta, GA**

*August 2024 – Present*

Bachelor of Science in Computer Engineering, GPA 4.0

Expected Graduation, May 2027

**Relevant Coursework:** Linear Algebra, Differential Equations, Digital System Design, Objected Oriented Programming, Physics 2

## Skills

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**Programming:** Java, Python, C, C++, JavaScript, Node.js

**Hardware:** Inertial sensors, Encoders (hall effect sensors), ultrasonic sensors, 3D printing, Milling, CNC

**Software:** SolidWorks, OpenCV, GitHub, Git, Autodesk Inventor

**Languages:** English (native), Chinese (native)

## Projects

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**VEX Robotics Team 980S | Skywalker Robotics**

*August 2018 – June 2022*

**Captain, Robot Designer, Programmer**

- Implemented motion profiling with feedforward velocity control, boosting movement accuracy by 99.5% and reliability by 80%, achieving an 80% improvement in smoothness compared to traditional PID control.
- Developed a library of 6+ autonomous control algorithms, including odometry and path tracking, using embedded C++ and OOP, reducing programming time by 60%
- Enhanced performance and reliability by utilizing RTOS-based multi-threading, finite state machines, and mutexes for concurrent robot subsystem control, eliminating race co

**Drone Assisted Water Sampling | Macronix Science Award**

*September 2022 – June 2023*

**Researcher**

- Developed a 3D-printed quadcopter with a retractable water collection payload, enabling targeted sampling at specific depths and GPS locations, reducing water sampling time by up to 50%

## Experience

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**Skywalker Robotics Club | Auckland, New Zealand**

*August 2018 – Present*

**Founder**

- Established a community-based club for motivated teenagers without access to robotics in school in New Zealand.
- Hosted 7 outreach workshops with 1000+ attendees to promote STEM Education in New Zealand.
- Taught 650+ hrs of CAD & programming, provided troubleshooting consultation and competition tips to teams in New Zealand, Taiwan, Australia and United States both in person and online.
- Mentored 10+ teams, leading to a score increase of 150% and qualifying to the Vex World Championship 6 times

## Leadership and Activities

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**Mingdao High School First Robotics Team 7130 | Technical Captain, Programming Leader**

*February 2022 – January 2024*

- Led a 15-member software team, mentoring in embedded programming, and contributed to subsystem integration, drivetrain, and intake design, ensuring seamless control and programming alignment.
- Designed, built, and tested a 120-pound competition robot in six weeks, implementing control algorithms and computer vision localization using April Tags.
- Organized STEM outreach initiatives, including fairs for 7,000+ students and regional scrimmages, promoting education and engagement.

**GT Medical Robotics | Software Team**

*August 2024 – Present*

- Designing a prosthetic arm with integrated sensory feedback to optimize sensory restoration for arm amputees.
- Leveraging Mediapipe for continuous hand gesture recognition and mapping gestures to EMG data using deep learning algorithms.