

# Rocky Chen

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## EDUCATION

### Purdue University

GPA: 4.0

- B.S Robotics Engineering Technology
- Minor: Computer Science + Certificate: Entrepreneurship and Innovation

West Lafayette, IN

Aug 2023 – May 2027

## EXPERIENCE

### AP Computer Science Teaching Assistant

Tools: Java, IntelliJ IDEA

- Designed a comprehensive teaching schedule and material for 3 Computer Science courses
- Created an educational game, Tower of Hanoi, to serve as the teaching material
- Created a unit test system for code style checks and automatic grading

Aug 2022 – June 2023

New Taipei City, Taiwan

### Coach of a high school Robotics Competition Team

Tools: C, C++, Onshape, VSCode, GitHub, Zoom, Discord

- Instruct high school students in computer-aided design, construction quality, and programming skills.
- Guided and mentored members in designing and implementing innovative solutions
- Led team to won tournament champion in Indiana States Championship

Dec 2023 – Present

Indianapolis, IN

## PROJECTS

### PROS System developer, ACM SIGBots CLI Subteam | Python, PyCharm, GitHub

Jan 2024 – Present

- Engage to the development of the PROS Robotics Operating System, an open-source project with a significant user base of over 40,000 downloads.
- Focused on the creation of a lightweight and accessible development platform for VEX Robotics.

### VOSS robot control library, ACM SIGBots Software Subteam | C++, CLion, GitHub

Aug 2023 – Present

- Initiated and founded the VOSS open source robot control library, driving its inception and majority of the early development stages.
- Served as Project Manager and main developer, specializing in implementing control and structure.

### Real-Time 2D Trajectory Generator | C++

Aug 2023 – Present

- Designed and developed a robust library to facilitate autonomous robot navigation within a 2D environment.
- Implemented features enabling robots to autonomously correct their position and adhere to specified constraints during navigation tasks.

### LemLib robot control library, Project Manager | C++, CLion, GitHub

May 2023 – Present

- Developed and maintained LemLib, an open-source robot control library with a user base of over 4,800 downloads.
- Leading the project as project manager and main developer, focusing on integrating advanced functionalities and optimizing code structure for enhanced performance.

### Trapezoid, Sigmoid, Asymmetrical-S Curve Motion Profile | C++, Python

Oct 2022 - May 2023

- Enables robots to maneuver with specified velocity, acceleration, and other control parameters.
- Utilized C++ and Python to calculate and visualize various motion curves, enhancing the optimization of robot trajectories.

### Computer Vision for Roshambo Robot | Python

March 2022 - June 2022

- Implemented computer vision using MediaPipe and TensorFlow, leveraging machine learning to differentiate users' hand gestures.
- Created and published an instructional video on YouTube, providing a comprehensive overview of the code's functionality and usage.

## TECHNICAL SKILLS

**Languages:** English, Chinese(Mandarin), Taiwanese

**Programming Languages:** C++(Proficient), C(Proficient), Java(Competent), Python(Proficient)

**CAD Tools:** Onshape, Rhino, Solidworks, Siemens NX

**Project Management Tools:** GitHub, Git, Aras Innovator, Notion

**Strength:** Innovative, Dedicated, Cooperative