

# Garret Castro

LinkedIn: [www.linkedin.com/in/garret-castro](http://www.linkedin.com/in/garret-castro)

Website: [thevanadium.github.io/portfolio](http://thevanadium.github.io/portfolio)

Email: [garretcastro0728@gmail.com](mailto:garretcastro0728@gmail.com)

## EDUCATION

### **Enrolled at the University of California Merced, Merced, CA**

Bachelor of Science, Computer Science and Engineering - Chancellor's Honor List, GPA **3.696**

Expected Graduation **Fall 2025**

## TECHNICAL SKILLS

**Languages:** Python, SQL, HTML/CSS/JS, Typescript

**Frameworks/Libraries:** Pandas, Numpy, Flask, React, Angular

## RESEARCH

### **SupHerb Crop Yield Estimation (August 2024-Ongoing)** (Python, OpenCV, Flask, Data Science)

- Directed as team lead in developing a computer vision model to predict cilantro harvest yields
- Processed cilantro image data for harvest prediction model using Farm-ng Amiga's FarmOS interface
- Eliminated the need for human prediction by increasing the precision of automatic crop yield estimation
- Mentoring a new team and integrating computer code into code for robot locomotion, using RTK GPS

### **Capstone Team Formation Tool (August 2024-Ongoing)** (Python, Numpy, Pandas, Data Science)

- Developed a novel skills-based and preferences-based algorithm to assign students to group projects
- Automated data input via parameterization to work on more datasets with less user input
- Optimized algorithm by eliminating unnecessary computations, decreasing runtime by 50%
- Writing a paper on the implementation of the algorithm on real student data

## PROJECTS

### **UC Merced GE Badge Finder** (React, Flask, REST API)

- Developed a web application that finds every UC Merced course with given GE badge criteria
- Utilized web scraping to collect course data and converted it into a REST API
- Eliminated the need for login/navigation, reducing the course identification process to seconds

### **Minecraftle** (Flask, Javascript)

- Contributed to the upkeep and enhancement of a browser game for over 600,000 players
- Fixed game-breaking bugs, allowing win and loss conditions to be calculated as intended
- Resolved inconsistencies in the game's high contrast mode, facilitating play for colorblind users

## AWARDS/CERTIFICATES

AP Scholar with Honor

*Demonstrated exemplary college-level achievement through Advanced Placement Exam performance*

CompTIA Security+ Certified

*Demonstrated expertise in securing IT systems, identifying and mitigating security threats, and implementing robust security measures to safeguard sensitive information*