Garret Castro

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TECHNICAL SKILLS

Languages: Python, HTML/CSS/JS, Typescript, C++, SQL, Java

Frameworks/Libraries: React, Angular, Flask, OpenCV

RESEARCH

SupHerb Crop Yield Estimation (August 2024-Ongoing) (OpenCV, Python, React)

- Collecting and processing crop image data for model training using the Farm-ng Amiga's React interface
- Developing a computer vision model using OpenCV to calculate the weight of the harvest
- Eliminating the need for human prediction by increasing the precision of automatic crop yield estimation

Capstone Team Formation Tool (August 2024-Ongoing) (Python, Numpy, Pandas, React)

- Developed an algorithm to assign students to group projects based on their skills and preferences for capstone courses
- Expanded algorithm via parameterization to work on more datasets
- Optimized algorithm by reducing unnecessary computations, halving runtime

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+ 601 Certified

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

EDUCATION

Enrolled at the University of California Merced, Merced, CA

Bachelor of Science, Computer Science and Engineering - Chancellor's Honor List, GPA 3.684

Expected Graduation Fall 2025

Ripon High School, Ripon, CA

High School Diploma