Ethan **Wadsworth**

Computer Science Student

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Summary

Current computer science major with experience in many areas through the implementation of independent projects. Passionate developer with an insatiable desire to learn and experiment with new technologies and topics while also sharing current knowledge with those with less experience. Interested in working on solutions for challenging problems and learning new skills and technologies if the need arises.

Extracurricular Activities

Triton Robotics

UCSD

Robomaster Robotics Competition Computer Vision Member

Sep. 2019 - Present

- Developed auto-aiming software to detect enemy robot armor plates with other team members using Python, C++, and opencv.
- Implemented 2D motion detection for object tracking using a Kalman Filter.

Projects

Competitive Pokemon Trend Analysis

Python Web Scraping

- Scraped data from competitive Pokemon websites and compiled the data into readable CSV files on a monthly basis. The data was then used to create graphs for trend analysis to better understand how player preferences changed over time.
- Used: Python, matplotlib, beautifulsoup4

A Cautionary Tale - A Global Warming Text-Based Decision Game

Java Game Development

- Developed multi-path text game where player decisions affect the future of the planet using Java Swing.
- Designed as an educational tool to show users the urgency of actions towards counteracting the effects of global warming and the immediate dangers of inaction.

Image Processing and Computer Vision Training/Practice Sets

Online Python Learning Resource

- Wrote explanations and the steps for algorithms used in the popular image processing and computer vision library opencv.
- Implemented many of the algorithms included in the opencv library from scratch using only Python and numpy, with written descriptions and a step by step guide explaining how each algorithm works.
- Designed as an educational tool for individuals and other instructors interested in learning more about the opencv library and computer vision and image processing in general.
- Used: Python, numpy, opencv, matplotlib, Jupyter Notebooks

Steam Web Api Wrapper for Valve Multiplayer Games

Node.js Package

- Developed Node.js wrapper for Valve games (Dota2 TF2 CSGO) using the free Steam Web Api to make development using the Api much simpler.
- Designed and wrote detailed descriptions of api calls to improve existing documentation on untested Steam Api endpoints.
- Gained 200 users in first week after release to the public.
- Used: Javascript, Node.js

Dota 2 Pocket Client

Fullstack Web Application

- Built a responsive web app using React, Express, Node, and the Steam web api that allowed Dota 2 players to view detailed results of their matches and the matches of other players.
- Provided additional insight into popular character picks and item builds by analyzing recent professional matches and the average statistics for each character from those matches.
- Used: Javascript, React, Node.js, HMTL/CSS, Express, Bootstrap4

Education

University of California, San Diego

La Jolla, California

Working Towards B.S. in Computer Science

Sep. 2019 - Jun. 2023 (expected)

- Relevant Courses: Data Structures, Object Oriented Programming and Design, Discrete Mathematics

Skills

Advanced Java, Javascript, React, Node.js, Python, HTML, Git

Basic C++, CSS, Express, Vim