Ethan **Wadsworth**

COMPUTER SCIENCE STUDENT

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Education

University of California, San Diego   *La Jolla, California*

WORKING TOWARDS B.S. IN COMPUTER SCIENCE   *Sep. 2019 - Jun. 2023 (expected)*

- Major GPA: 3.934

Experience

Computer Science Tutor   *La Jolla, California*

UNIVERSITY OF CALIFORNIA, SAN DIEGO   *Jan. 2021 - Jun. 2021*

- Led students in small group lab sessions once a week to provide extra practice for content covered in lectures for that week.
- Held one-on-one open lab hours to help students with class assignments and conceptual misunderstandings.
- Developed exam and assignment questions using Python.
- Graded student assignments and assisted with other course logistics.
- Worked closely with other course staff to address student concerns and design additional programming exercises to help struggling students.

Computer Vision Team Lead   *UCSD*

TRITON ROBOTICS CLUB   *Sep. 2019 - Present*

- Developed auto-aiming software to detect enemy robot armor plates with other team members using Python, C++, and opencv.
- Increased detection accuracy from 65% to 80% by increasing preprocessing speed and adjusting filtering methods.
- Wrote data cleaning and auto-labeling scripts to increase data collection efficiency.
- Taught basic image processing and computer vision to recruits using personally developed digital note sets and practice exercises.

Projects

Smart Cookbook

FULLSTACK WEB APPLICATION

- Independently designed web application that returns recipes based on user ingredients to reduce food waste, stretch meal budgets, and reduce grocery store trips to keep people safe during the pandemic.
- Designed Firebase database endpoints and login system and assisted with UI design.
- Used: Firebase, HTML/CSS, Javascript

Image Processing and Computer Vision Training/Practice Sets

ONLINE PYTHON LEARNING RESOURCE

- Educational tool for individuals and other instructors interested in learning more about the opencv library and image processing.
- 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.
- Used: Python, numpy, opencv, matplotlib, Jupyter Notebooks

Steam Web Api Wrapper for Valve Multiplayer Games

NODE.JS PACKAGE

- Wrapper for the Steam Web Api for Valve games (Dota2 TF2 CSGO) to make development using the Api much simpler.
- Wrote detailed documentation 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

- Independently built a responsive web app 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

Technical Skills

Programming Technologies   Java, JavaScript, React, Node.js, Python, HTML, Git, C++, CSS, Express, Jupyter