

# 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 TEAM LEAD

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.
- Taught basic image processing and computer vision to recruits using personally developed digital note sets.

## Projects

### Smart Cookbook

FULLSTACK WEB APPLICATION

- Web application that returns recipes based on what ingredients the user inputs. Created to reduce food waste, stretch meal budgets, and reduce grocery store trips to keep people safe during the pandemic. Designed Firebase backend connection and assisted in front end design.
- Used: Firebase, HTML/CSS, Javascript

### 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 educational tool to show users urgency of actions towards counteracting the effects of global warming.

### 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, HTML/CSS, Express, Bootstrap4

## Education

### University of California, San Diego

La Jolla, California

WORKING TOWARDS B.S. IN COMPUTER SCIENCE - MAJOR GPA: 3.947

Sep. 2019 - Jun. 2023 (expected)

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

## Skills

**Technologies**    Java, Javascript, React, Node.js, Python, HTML, Git, C++, CSS, Express, Vim