Aaryan Agrawal

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Education	**University of California, San Diego** B.S. in Data Science	**September 2021 – June 2024**

Relevant Coursework
Intro to Data Science, Data Structures and Algorithms
Multivariable Calculus, Linear Algebra

Extracurricular Activities

Triton Robotics Team **September 2021 – Present**
Computer Vision Team
- Created OpenCV pipeline for detecting armor modules on spinning goal piece
- Predicted future position of targets with Kalman Filters for accurate robot aiming
- Trained YOLOv4 neural network to track robots on field and autonomously shoot them
- Translated existing Python code into C++ for improved efficiency

Yonder Dynamics **September 2021 – Present**
Software Team
- Competed in NASA University Rover Challenge, one of 36 teams that qualified for finals
- Designed and simulated obstacle avoidance algorithm using IR sensors with ROS Gazebo
- Detected robot battery levels and displayed information on front-end React website

Work Experience

Lockheed Martin Solar and Astrophysics Lab, Palo Alto, CA **September 2020 – July 2021**
IRIS Data Analyst
- Investigated solar satellite data from the Interface Region Imaging Spectrograph
- Developed sunspot detection algorithm and K-Means clustering for atmospheric conditions
- Generated comprehensive dataset of sunspot atmospheres and related magnetic fields

Castlight Health, San Francisco, CA **June 2020 – July 2020**
Software Engineering Intern
- Used topic modeling (LDA) to group and understand user survey comments
- Identified easily solvable common complaint, communicated with product managers
- Analyzed and graphed user search database to research trends and offer improved results

Castlight Health, San Francisco, CA **July 2019 – August 2019**
Software Engineering Intern
- Employed open-source tools to generate relational diagrams of large database environments
- Deployed Bash scripts to re-generate and host diagrams on schema changes
- Implemented Python and SQL tooling to automatically fetch and graph monitoring routines

Projects

GMK Price Tracker (https://gmk.aaryan.dev/ | Source) **Summer 2021**
- Scraped GMK keycap aftermarket prices from Reddit posts and uploaded data to Firebase
- Built React website to dynamically show various product prices over time

Labyrinth Escape (https://maze.aaryan.dev/ | Source) **Summer 2020**
- Created online peer-to-peer multiplayer maze escape game with JavaScript
- Added competitive CPUs capable of solving mazes and escaping the player

Skills
- Python, Java, JavaScript, React, SQL, NoSQL, Firebase
- Data Analysis, Web Scraping, Computer Vision, Neural Networks
- NumPy, pandas, Matplotlib, OpenCV, scikit-learn, TensorFlow, Gensim, Git, YOLO