

Noah Renella

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Education

California State Polytechnic University, Pomona

Master of Science, Computer Science Degree

2021-2023

*GPA: 4.0

*Advanced Algorithm Design and Analysis, Image Processing, Artificial Intelligence, Natural Language Processing, Computer Architecture, Computer Graphics, Advanced Software Engineering, Artificial Intelligence in Entertainment

Bachelor of Science, Computer Science Degree

2016-2020

*Core GPA: 3.75

*Databases and Data Models, Data Structures, C++ Programming, Numerical Methods, Object-Oriented Design and Programming, Software Engineering, Game Development, Mobile Development, Calculus, Programming GUIs

Work/Volunteer Experience

California State Polytechnic University, Pomona

2021-2023

Machine Learning Research Assistant – UAVs and UGV collaboration project

- Researched and developed machine learning algorithms, in Python code utilizing TensorFlow, capable of classifying and locating weed and strawberry plants
- Collaborated with a team of students to deploy the machine learning models on to an aerial vehicle which would communicate with a ground vehicle to provide real time detection and removal
- Managed and analyzed large data sets of plant values to correlate ground truth with multispectral UAV values

Performance Tube Bending, Irwindale

2017-2020

Inventory and Customer Service

- Maintained all inventory and customer purchases whether walk-in, phone call, or online
- Created programs used to calculate cost, organize company inventory, and catalog orders
- Provided Customer service to customers who were looking for a specific item as well as making sure the items sold were removed from the inventory databased and shipped

Projects

Custom Ray Tracer

2023

- Built a custom ray tracer from the ground up using Java
- Implemented methods for the ray tracer to ray trace shapes such as paraboloids, cones, cylinders, etc,
- Implemented math intensive methods to calculate intersection, union, and difference of shapes to create the most efficient ray tracer possible

PickOne Mobile App

2023

- Project Website: <https://github.com/NRenella/pickone>
- Utilized Dart, Swift, and Flutter to create a mobile app that allows users to decide on a movie to watch
- Utilized Firebase database for user authentication and TMDB api for trending movie information

Cravings Dash Website

2020

- As CEO of this project, I implemented a full stack using mongodb, express, react, and nodejs with user authentication as well as assigned task for the rest of the team to do with deadlines
- Wrote a substantial amount of the code modeling and deploying the website to the heroku cloud as well as communicated with a team of students in a SCRUM style work environment

Publications

Machine learning models for detecting and isolating weeds from strawberry plants using UAVs

2023

- Published Link: <http://dx.doi.org/10.1117/12.2664408>

Collaboration between UAVs and UGVs for site-specific application of chemicals

2023

- Published Link: <http://dx.doi.org/10.1117/12.2664604>

Technical Skills

- Languages: Java, Python, C++, HTML, CSS, JavaFX, JavaScript, MySQL, Dart, Swift
- Development Tools: VS Code, Git, GitHub, Xcode, Eclipse, Jupyter Notebook, Node, Firebase, REST API