

# Roye Fang

royefang01@gmail.com • 626-709-7268  
royefang.github.io • linkedin.com/in/royefang

Education	University of California, Los Angeles B.S. Computer Science, GPA: 3.602	Anticipated June 2023
Technical Skills	Languages: Python, C/C++, SQL, JavaScript, Bash Technologies: Linux, Git, Flask, React.js, MySQL, Arduino, Unity	
Professional Experience	<b>The Aerospace Corporation - Technical Intern</b> <ul style="list-style-type: none"><li>- Supported the Visualization and Immersive Technologies Dept. (VITD), creating animations, AR/VR experiences, visualization software, and Unity/web apps for the space enterprise</li><li>- Introduced a Flask RESTful API backend service and web app interface for astronomical time system translations using Earth Orientation Parameters data from MySQL database</li><li>- Designed and implemented a portfolio website using React.js to centralize information about department news, projects, capabilities, and contact information</li><li>- Improved an on-campus touchless video wall application using Unity game engine and C# scripts to display PDFs, local webpages, and an interactive calendar</li></ul>	Jun 2021–Sep 2021
Practical Experience	<b>UCLA IEEE (Institute of Electrical and Electronics Engineers)</b> <ul style="list-style-type: none"><li>- Strengthened practical programming skills in embedded systems and electrical engineering projects through Micromouse and OPS (Open Project Space)</li><li>- Collaborated with 2 teammates to build an autonomous maze-solving robot. Developed data structures in C to record maze environment, robot positioning, and calculate Manhattan distances in order to implement flood fill algorithm</li><li>- Coded a “Red Light, Green Light” game between 2 Arduinos with UART. Transcribed full-length piano pieces/pop songs into code for an 8-bit Arduino music player</li></ul>	Sep 2019–Present
Projects	<b>Tu.Can - Full Stack Messaging Web Application</b> <ul style="list-style-type: none"><li>- Collaborated with 4 peers to program a real-time web application using MERN stack</li><li>- Built frontend components for login page, registration page, and various color themes</li><li>- Designed document schemas for accessing/storing user, chatroom, and messaging data</li><li>- Implemented API routes for client-side triggered events to update MongoDB using Express</li></ul> <b>TI-RSLK - Autonomous Line-Following Car</b> <ul style="list-style-type: none"><li>- Programmed PID feedback loop in C++ for TI-RSLK robot to follow 2 arbitrary paths</li><li>- Conducted sensor fusion with test data in Excel to normalize 8 IR sensors for continuously recording robot positioning, allowing for precise and instant adjustments along the path</li><li>- Scored fastest overall completion time across all paths in a 20-person lab section</li></ul> <b>Mori - Arduino Memory Game</b> <ul style="list-style-type: none"><li>- Built a memory game in Arduino/C++ by flashing strings of numbers in the console</li><li>- Programmed logic to track game state, player reaction times, and overall score</li><li>- Devised customizable settings for string length, memorizing time, and game length</li><li>- Plotted in Python to visualize relationships between game settings and player performance</li></ul>	Jan 2021–March 2021 May 2020 May 2020