

Gustavo Martin-Vera

Portfolio: <https://gus-371.github.io/Gustavo-Martin-Vera-Portfolio/>

(909)417-1884

gm25765@gmail.com

<https://www.linkedin.com/in/gustavo-martin-vera-506205230/>

EDUCATION

University of California, Riverside

Graduated: June 2023

Bachelor of Science in Mechanical Engineering

SKILLS

Bilingual-Spanish
LabView
Troubleshooting

SolidWorks
Arduino
Excel

Finite Element Analysis
AI Tools
Microsoft Office

Machining
Project Management
Technical Writing

MATLAB
Web Design: HTML, CSS
JavaScript

CERTIFICATIONS

Certified SolidWorks Associate - Mechanical Design (CSWA)

Certified SolidWorks Associate -Simulation (CSWA-S)

Certified SolidWorks Associate - Additive Manufacturing (CSWA-AM)

Procore Certified: Engineer

Certified Responsive Web Designer - FreeCodeCamp

EXPERIENCE

Web Developer - UI/UX Designer (Freelance)

February 2024 - Present

- Utilized an e-commerce platform to provide services in web application development and UI/UX consultation.
- Coordinated with clients to establish design constraints and specifications for web applications.
- Provided daily progress reports to clients, ensuring transparency and alignment.
- Utilized project management techniques to create and execute plans for timely project completion.
 - Collaborated with photographer and client for web content to expedite project completion by 30%
 - Strategically planned the web page structure prior to coding to streamline the process, facilitating efficient and effective use of CSS Flexbox for content arrangement
- Conducted research and analyzed contemporary web pages to stay updated with trends, ensuring the design aligned with clients' brand aesthetics.
- Developed web applications using HTML, CSS, and JavaScript to ensure responsiveness for mobile and desktop devices.
- Employed GitHub for version control, efficiently managing code revisions and updates.

ENGINEERING PROJECTS

Unmanned Aerial Vehicle - Senior Project

September 2022 - March 2023

- Collaborated with a team of four to design and construct an innovative UAV utilizing lighter-than-air technology.
- Handled procurement processes with vendors for all necessary parts and components, including industrial grade Helium, through strategic supplier engagement, benefiting multiple project groups.
- Led and coordinated the Arduino programming team, collaborating closely with the structural design cross functional team to ensure seamless integration of UAV mechatronics into UAV body.
- Implemented obstacle avoidance by programming Arduino microcontrollers to process data from ultrasonic sensors and determine optimal flight path.
- Developed a program to optimize flight time by adjusting the motor speed based on battery level readings.
 - Improving flight duration by 20%
- Applied technical writing skills to compose a 70-page report detailing the engineering design process utilized to create a UAV.

Machine Design Project - Straw Bridge

March 2022 - June 2022

- Coordinated with a team in the design and construction of a straw bridge, focusing on structural integrity and failure analysis.
- Conducted extensive research and analysis on multiple bridge designs, ultimately selecting a bridge design thorough comparison.
- Directed the prototype development phase, testing multiple designs to identify the best-performing model for final construction.
- Utilized the weldment feature in SolidWorks to design and subsequently test our truss/bridge structure.
- Created a drawing adhering to GD&T (Geometric Dimensioning and Tolerancing) standards for our bridge design.
- Leveraged experience in building straw bridges to construct the final model, ensuring precision and adherence to design specifications.
- Utilized Finite Element Analysis in SolidWorks to analyze stresses and failure modes, and verified the results to hand calculations using Distortion Energy Theory.
 - The predicted value deviated from the actual value by 12%
- Gained practical experience in design for manufacturing and the design-build-test process.

Aerospace Systems Student Club - Structural Team

October 2021 - June 2023

- Contributed to the manufacturing of the rocket's structure by actively engaging in team meetings that emphasized safety procedures, manufacturing techniques, and CAD file reviews, alongside hands-on participation in manufacturing lab sessions.
- Addressed tolerance issues with the machined fin cage by devising and implementing a jig that utilized an orbital sander for precise material removal, ensuring a proper fit within the rocket body.
 - Increased material removal efficiency by 30%
- Fabricated the Nose Cone of the rocket using fiberglass and epoxy to ensure durability
- Responsible for preparing the mold with mold release, cutting long strands of fiberglass, and accurately mixing the resin and hardener of epoxy to the appropriate ratios
- Applied layers of fiberglass and epoxy using rollers to ensure proper bonding, and carefully removed excess material post-hardening for a smooth finish, essential for aerodynamics to reduce drag.