Marcus Hooshmand

marcushooshmand.com | (949) - 680 - 6695 | Marcushooshmand@gmail.com | U.S. Citizen

EDUCATION

University of California, Irvine Sep 2024 - Dec 2026
B.S. in Mechanical Engineering

Irvine Valley College Aug 2021 - May 2024
Associates in Mathematics, Physics, and Natural Sciences

EXPERIENCE

Mechanical Engineering Intern Jun 2025 - Sep 2025
Engineous Group

- Calculated heating and cooling loads for a restaurant using EnergyPro, factoring in square footage of floors, windows, and doors.
- Designed HVAC system by selecting units and sizing ducts to ensure proper CFM, airflow, efficiency, coverage, and performance.
- Used AutoCAD to create the duct design and became familiar with HVAC building codes and standards throughout the project.

Airframe Engineer Apr 2025 - Present
FLAM (Flying Leathernecks Aviation Museum)

- Collaborating with engineers and museum staff to restore a WWI-era aircraft, including structural and mechanical components such as wings, fuselage, tail assembly, and engine system
- Assisting in reverse-engineering and 3D printing replica parts to match original specifications and materials as closely as possible
- Supporting the design and analysis of a ceiling suspension system to safely display the aircraft overhead, accounting for load distribution and safety requirements

Lead Structural Designer Jun 2025 - Aug 2025
Contracted Engineering Project

- Designed six freestanding bleacher-style structures, each rated for 5,000 lbs live load with a minimum factor of safety of 4.5
- Created a modular, relocatable treehouse-style viewing platform built around palm trees, and engineered a 6-foot-tall deck structure with an integrated serving area for dual-level use.
- Performed FEA simulations in SolidWorks (stress, strain, displacement) to validate structural performance and safety margins.

3D Printing Design and Manufacturing Business September 2025 - Present
Amazon Seller

- Designed, prototyped, and manufactured 3D printed products and listed them for sale on Amazon.
- Modeled products in SolidWorks, accounting for tolerances, heat resistance, filament cost, package size, and profitability
- Two products in total have been fully created and are actively listed on Amazon. Total sales are around 300 units as of 10/23

PROJECTS

UAV Club @ UCI Mar 2025 - Present
Board - Project Manager

- Developed a structured curriculum and project timeline for club members, covering drone design, assembly, and flight fundamentals.
- Led weekly CAD workshops using SolidWorks, focusing on drone and fixed-wing aircraft design, including custom part modeling.
- Mentored member teams on building and troubleshooting Tiny Whoops, 5-inch racing drones, and foam or 3D printed fixed-wing planes of varying sizes.

Anteater Combat Robotics @ UCI Sep 2024 - Feb 2025
Team Lead

- Led the mechanical design of a custom robot, developing the chassis, gear assemblies, and weapon system from concept to fabrication without external references.
- Employed SolidWorks for 3D modeling, optimizing movement, offense, and defense within the 1 lb weight limit.
- Manufactured with 3D printing to achieve precise customization while maintaining a total weight under 1 lb.
- Soldered key electrical components such as the battery, motor, ESC (electronic speed controller), switch, servo, and receiver.

Autonomous Robot Project @UCI Jan 2025 - Mar 2025
Software Lead

- Developed and programmed an autonomous robot in C++ (Arduino) to navigate a course using a pneumatic propulsion system and servo-based steering.
- Developed a sensor fusion system combining magnetometer and reed switch data for dead reckoning, enabling real-time heading correction and accurate trajectory adjustments.

NASA Micro-G Nov 2023 - Jan 2024
Design and Outreach
Software Lead

- Designed a tool carrier for the NASA Artemis missions in SolidWorks, following strict guidelines provided by NASA
- Led outreach for funding of the project, as well as connecting with local schools to present our work to the younger generation

SKILLS

HARD SKILLS: SolidWorks, AutoCAD, Matlab, FEA, ANSYS, Revit, HVAC, Structural design, Basic circuits, 3D Printing, Soldering, Manufacturing, Woodwork, Machining, Welding, JavaScript, CAD Modeling, Mechanical Design, Engineering Principles, Microsoft Office, Excel, Word
SOFT SKILLS: Leadership, Project management, Communication, Engineering creativity, Critical thinking, Adaptability, Problem solving, Time management

COURSEWORK

MATLAB, Solidworks CAD, Statics, Dynamics, Circuits, Thermodynamics, Fluid Dynamics 1&2, Materials Science, Theory of Machines, Mechanics of Structures, Applied Thermodynamics, Heat and Mass Transfer, Fluid Thermal Lab

CERTIFICATES

Certified SolidWorks CAD Design Associate July 2024