

Tariq Akilah

Irvine, CA | +1 (408) 333-4327 | takilah@uci.edu | [linkedin.com/in/tariq-akilah](https://www.linkedin.com/in/tariq-akilah) | www.tariqakilah.com

EDUCATION

University of California, Irvine

Bachelor of Science, Mechanical Engineering

Relevant Coursework: Statics, Dynamics, Fundamentals of Thermodynamics

Irvine, CA

Expected June 2028

Mission College

Associate Degree for Transfer, Physics & Mathematics, GPA: 3.88/4.0

Relevant Coursework: Kinematics, Engineering Materials, Circuit Analysis

Santa Clara, CA

Aug 2024 – June 2026

TECHNICAL SKILLS

CAD & Design: SolidWorks, Fusion 360, Onshape, AutoCAD, Engineering Drawings, GD&T

Simulation & Analysis: ANSYS Mechanical (FEA), STAR-CCM+ (CFD), SimScale (CFD), OpenRocket

Programming & Software: MATLAB (Simulink), Python, C / C++, Microsoft 365

Manufacturing & Fabrication: FDM 3D-Printing, Rapid Prototyping, MIG Welding, Soldering, Mechanical Assembly

ENGINEERING EXPERIENCE

Aerodynamics Engineer

Anteater Electric Racing - Formula SAE Electric, UC Irvine

Irvine, CA

July 2026 – Present

- Perform ANSYS Mechanical stress analysis on undertray and sidepod mounts under a 300 N aerodynamic load, confirming a **1.8x safety factor** while identifying mass-reduction opportunities.
- Iterated undertray inlet geometry, throat height, and diffuser angle in SolidWorks and STAR-CCM+ within Formula SAE bounding-box rule constraints, increasing CFD-predicted downforce by **220% at 50 km/h** compared to the previous design.

Fluid Dynamics Research Intern

Mission College | [Website](#)

Santa Clara, CA

June 2026 – Aug 2026

- Designed a **22-part SolidWorks assembly** for a high-power rocket airframe, including body tubes, a fin jig, and a canard-servo housing, reducing simulated drag coefficient by **21%**; fabricated all parts using PETG-CF FDM 3D printing.
- Ran 6,000+ simulation core hours and a mesh-refinement study in SimScale from **3.0 to 4.8 million cells**, confirming roll-torque coefficients agreed within **5%** across refinements.
- Delivered a **162-point** CFD roll-torque dataset spanning 0.55°-9.9° canard deflection and 33-113 m/s freestream velocity for use in Python flight-control code.

Avionics Lead

Mission Launch Rocketry

Santa Clara, CA

July 2025 – June 2026

- Led a 5-member team to reduce avionics-bay mass by **34%** through component selection, assembly layout changes, and FDM parameter optimization, increasing simulated apogee by **318 ft**.
- Validated the redesign through ANSYS Mechanical stress analysis simulations, comparing baseline and lightweighted bays under a **120 N axial load** with a **2x safety factor**.
- Modeled flight in OpenRocket, achieving a **1.12-cal of stability** and predicting apogee **within 7%** of measured flight data.

PROJECT EXPERIENCE

NAR High-Power Rocket Certification | Fusion 360, OpenRocket, FDM

- Designed and rapid-prototyped a PETG-CF airframe **under 600 g** using Fusion 360 CAD and FDM 3D-printing; flew to a measured **4,600 ft at Mach 0.75** and recovered intact, earning NAR Level 1 certification.

RWF DAF Tank Replacement-in-Kind | AutoCAD, SolidWorks, Documentation

- Designed a replacement-in-kind DAF tank for the San José-Santa Clara Regional Wastewater Facility using existing facility dimensions, footprint, and pipe interfaces.
- Produced SolidWorks models, AutoCAD site plans, and contract documentation reviewed by a former facility engineer.

Motorized Trike | Fusion 360, MIG Welding

- Designed a steel-tube chassis in Fusion 360 and fabricated it with self-taught MIG welding to support a 180 lb rider.
- Rebuilt a seized 212 cc engine and integrated the drivetrain and steering components into a functioning motorized trike with a measured top speed of **40 mph**.

LEADERSHIP EXPERIENCE

Founder & President - Mission College Muslim Engineering Society

- Founded and grew a STEM society to **30 members**, offering networking and internship connections with Bay Area professionals.

Sept 2025 – June 2026

Co-Founder & Vice President - Mission Launch Rocketry

- Co-founded and grew the first project-based engineering club at Mission College to **52 members** and raised **\$5,300** in funding.

July 2025 – June 2026