

Arnav Akarte

(U.S. CITIZEN)

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Summary

Innovative and results-driven Mechanical Engineer with a strong foundation in CAD/CAM design, predictive modeling, and materials selection. Experienced in leading high-impact projects, including propulsion systems development, robotics competitions, and research. Adept at integrating technical expertise with effective communication and teamwork to drive solutions in fast-paced environments.

Education/Certifications

University of Southern California

MS in Mechanical Engineering/Engineering Management

August 2025 – Present

Loyola Marymount University • GPA: 3.36

BS in Mechanical Engineering, Minor in Business Administration

August 2021 – May 2024

Relevant Coursework: Design for Manufacturing (Injection Molding, Sheet Metal, CNC Milling), Design for Additive Manufacturing, Control Systems, Aerodynamics, Composites, Material Science, Fluid Mechanics, Spacecraft, Propulsion, MATLAB.

Certificates: MIT AI and Machine Learning

Skills

- Proficient in CAD and CAM software (e.g., SolidWorks, Fusion360) and predictive modeling tools (MATLAB, Simulink) for design and analysis.
 - Strong analytical skills for materials selection, risk assessment, and technical specification evaluation.
 - Effective communicator and team player with experience leading collaborative engineering projects.
 - Quick learner with a growth mindset, driven by curiosity, accountability, and a willingness to embrace challenges
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Experience

Amazon - Project Kuiper - Final Testing and Integration:

- Perform final assembly and testing of complex mechatronic systems to ensure functionality and quality compliance.
- Diagnose, troubleshoot, and repair faults in electromechanical assemblies to restore optimal operation.
- Execute Built-In Self-Test, calibration, and space simulation procedures on completed components for performance validation.
- Identify inefficiencies in manufacturing processes and propose actionable solutions to enhance productivity and scale output.

Undergraduate Research Assistant / Thesis Co-Author:

- Spearheaded research on additive manufacturing with titanium alloys, uncovering groundbreaking insights.
- Engaged in the selection of heat treatments and stress tests based on analysis of specifications and reliability, contributing to the enhancement of product quality.
- Authored critical thesis sections on Ti6Al4V alloy, revealing the effects of heat treatment and stress relief.
- Co-authored manuscript submitted to the Journal of Material Engineering and Performance for publication.

Precision Machining Technician:

- Upheld safety and precision in machining practices at the campus Machine Shop as teaching assistant.
- Applied advanced skills for precise part and sample fabrication for academic and research purposes.
- Expertise in operating Haas Mini Mill and Haas Lathe CNC machines utilizing g-code for diverse machining tasks.
- Proficiency in multiple additive manufacturing softwares/slicers and machines (Prusa, Cura)..

LMU Rocket Team Lead:

- Collaborated on solid fuel, P&ID, sensors, nozzle, test stand, ignition, and injector designs, enhancing team capabilities.
- Led nozzle design, all calculations, test fire stand design, FEA, and components of injection and ignition mechanisms, demonstrating technical leadership.
- Excelled in problem-solving and rapidly adapting to new concepts and skills, driving project success.
- Led a team to design and develop a mechanical system that improved efficiency by 20%, utilizing advanced predictive modeling for informed design choices.
- Invited and attended as an exhibitor and presenter at the Reaction Research Society Symposium.

Archbishop Mitty FRC Robotics Lead

Archbishop Mitty High School | San Jose CA | Aug. 2016 - May 2020

- Mastered CAD and CAM to engineer a robot chassis and drivetrain, demonstrating technical prowess.
- Exercised leadership to guide a student team, making strategic decisions and mediating conflicts.
- Orchestrated meetings and subsystem communication, ensuring team synergy and a high-quality product.
- Achieved expertise in both Fusion 360 and SolidWorks, optimizing design and manufacturing processes.