

# 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.

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## Skills

- Proficient in CAD and CAM software (SolidWorks, Fusion360) and 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 Integration and Testing:

- Led final assembly and validation of 150+ mechatronic units for aerospace systems, ensuring readiness for flight operations.
- Diagnosed complex electromechanical issues with a 94% first-time fix rate, reducing rework time by 45% and increasing testing uptime.
- Executed BIST, calibration, and environment testing (TC, TVAC, vibration), contributing to zero test escapes on flight-certified units.
- Drove a 30% reduction in non-conformance reports and an 18% boost in assembly efficiency through process improvements, data-driven insights, and DFM-aligned feedback loops.

### 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.

### Assistant 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.
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## Education/Certifications

### University of Southern California

*MS in Mechanical Engineering/Engineering Management*

### Loyola Marymount University

*BS in Mechanical Engineering, Minor in Business Administration*

**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, Six Sigma Yellow Belt