Aaron Joshua S. Tolentino

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EDUCATION

Bachelor of Science in Mechanical Engineering

University of California, Los Angeles • Los Angeles, CA • 2025 • 3.39

• Technical Breadth in Bioengineering

Relevant Coursework

• Manufacturing Processes • Mechanical Design • Materials Science • Strength of Materials • Thermodynamics • Fluid Mechanics • Heat Transfer • Systems Modeling • Control Systems • Computational Modeling • Medical Imaging • Targeted Drug Delivery

SKILLS

• **Functional Competencies:** Manufacturing Engineering • Process Validation • Root Cause Analysis • Corrective Action • Quality Control • Drug Delivery Materials & Mechanisms • Design for Manufacturability • Failure Analysis • Continuous Improvement • Data Analysis • Equipment Troubleshooting • CAD Design • Regulatory and Safety Standard Awareness (IEC 60601, ISO 14644, OSHA, EPA, FDA)

• **Technical Tools:** SolidWorks • AutoCAD • MATLAB • Python • LabVIEW • FEA • CNC Programming • CAM • 3D Printing • Arduino

EXPERIENCE

Engineer Intern - Process Simulation & Data Analysis

WZI.inc **June 2022 - October 2023, Bakersfield, CA**

• Analyzed over 2,000 diagrams using structured workflows, improving review speed by 40 percent and reducing errors.

• Validated specifications across teams to prevent mismatches and ensure accurate simulation inputs.

• Coordinated technical reviews with Project Managers and specialty engineers to support system evaluations.

• Produced controlled documentation packages for design reviews and workflow standardization.

Technical Coordinator - Engineering & Safety Lead

Samahang Filipino Cultural Night **June 2024 - May 2025, University of California, Los Angeles**

• Led a 20 member team in fabricating and deploying large scale mechanical structures under fixed timelines.

• Standardized fabrication workflows that cut build time by 50 percent and reduced material costs.

• Created CAD drawings and installation procedures with consistent revision control.

• Directed build sequencing and safety checks to ensure reliable performance during a 2,000 attendee event.

PROJECT

Ceiling Climbing Robot

University of California, Los Angeles • January 2025 - June 2025

• Designed and built a robotic system with ducted fan propulsion and onboard sensors for mobility and obstacle detection.

• Created 3D printed housings and propellers in SolidWorks, completing 14 iterative designs that improved manufacturability.

• Executed heat, vibration, and structural tests using FEA, thermography, and sensor measurements, reducing motor temperature 20 percent and extending runtime 50 percent.

• Analyzed vibration and payload data to define operating stability and optimize clearance thresholds.

Electrocardiogram Device Development

University of California, Los Angeles • March 2025 - June 2025

• Engineered a compact ECG and BPM device using structured design reviews, reducing footprint by 30 percent.

• Designed a lightweight 3D printed enclosure with consistent dimensional control.

• Developed multilayer PCB layouts and performed board level verification for signal integrity.

• Executed functional testing to ensure reliable clinical signal capture.

CFET Nanofabrication Proposal

University of California, Los Angeles • March 2024 - June 2024

• Developed a CFET process flow using lithography, thin film deposition, and plasma etching for nanoscale feature fabrication.

• Performed photolithography, PVD, CVD, and etching in ISO Class 5 to 6 cleanroom environments after completing forty hours of fabrication and safety training.

• Evaluated etch selectivity and anisotropy to maintain pattern fidelity on high aspect ratio structures.