Akhil Nandhakumar

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Self-motivated, hard-working, and well-rounded student with proven leadership skills, and a strong interest in hands-on projects. Looking for a technically challenging, hands-on, and impactful engineering role with a focus in mechanical design / fabrication / testing. Interested in acquiring new knowledge, skills, and industry perspectives.

EDUCATION

University of California, Irvine - Aerospace Engineering B.S. - Class of 2027

GPA

College:	3.73/4
High School Weighted:	4.21/4

Coursework

Engr. Computation	A
Thermodynamics	A
Engr. Statics	A
Engr. Dynamics	A
Linear Algebra	A
Machine Shop Mfg.	A
Formula SAE Lab	A

ACADEMIC HONORS

UC Irvine Dean's Honor List — *2023 - Present*

Maintaining quarterly grade point average at or above a 3.5

EMPLOYMENT

Fabric8Labs – Prototype Engineering Intern — *2025 Summer*

- Intern at Fabric8Labs, a startup pioneering electrochemical additive manufacturing (ECAM), a high-precision metal 3D printing process using their proprietary printers
- Worked on the research, development, and manufacturing of copper cold plates and RF components for leading companies in computing, requiring advanced thermal management solutions for high-performance chips
- Used CAD skills to design various jigs, structural parts, testing fixtures, and shipping molds for delivering parts, and engaged in hands-on manufacturing and machine shop skills for the assembly of production cold plates
- Created the printhead assembly process to deliver the first completed prototypes of custom wafer-plating printheads to industry-leading silicon wafer manufacturers
- Developed a vacuum reflow soldering process for cold plate manufacturing which improved joint quality by 45%

EXTRACURRICULARS & PROJECTS

Chassis Design Engineer – UC Irvine FSAE Team — *2024 - Present*

- Member of Anteater Racing, UC Irvine's student-run team participating in FSAE competitions
- Conducted R&D of a new tube-frame chassis for our competition race car.
- Used SolidWorks to design holding fixtures, jigs, testing mounts, and the main chassis.
- Leveraged ANSYS FEA software to simulate torsional stresses, identify weak points, and optimize chassis rigidity.
- Utilized MIG and TIG welding, CNC machines, 3D printing, and laser cutting to fabricate the chassis.

EV Conversion Project — *2014 - Present*

- Converted a 1979 Triumph Spitfire into an EV, by removing internal combustion engine and installing a DC motor
- Designed a custom machined flywheel adapter, and designed an aluminum support structure for mounting batteries
- Wired 6, 12V lead-acid batteries in series to the motor, motor controller, pedal potentiometer and telemetry device
- Developed CAD skills for 3D printed parts, soldering skills, general electronics knowledge, and manufacturing skills
- Several successful test drives conducted

Autonomous Vehicle Laboratory (UCSD AVL) — *2022 Summer*

- Research intern at UC San Diego's AVL, in the Contextual Robotics Institute, led by Professor Henrik Christensen
- Created and annotated data sets to train the self-driving AI, worked on experimental self-driving vehicle, rewired cameras and LIDAR sensors, and mounted a new computer system.
- Designed and implemented a camera mounting system to maximize LIDAR sensors' field of view for a robot used to collect data on pedestrian traffic flow.

SKILLS

- **Manufacturing/Electronics:** MIG/TIG welding, CNC mill and lathe, power tools, circuitry soldering, module building, embedded systems
- **CAD/Modeling:** SolidWorks, Onshape, Blender
- **Programming:** MATLAB, Python, JavaScript, HTML, JSON, CSS, SQL, GitHub, Flask, Web Development, APIs
- **FEA:** Ansys, SolidWorks