Tue (Thalia) Thai

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Education

University of California, San Diego *Sept 2024 – June 2027*
B.S in Aerospace Engineering — 3.7 GPA

- **Relevant Coursework:** Aerospace Materials and Composites, MATLAB Programming, Mechanical Design, Orbital Spaceflight, Solid Mechanics, Statics, Thermodynamics

Engineering Experience

Triton Racing - Formula Society of Automotive Engineers *La Jolla, CA*
Mechanical & Electrical Integration Engineer *October 2024 – Present*

- **Optimised aerodynamic surfaces** of TR-26's front and rear wings using **ANSYS Fluent** by evaluating multiple airfoil geometries; achieved a **12% increase in lift-to-drag ratio,** improving overall vehicle cornering stability.
- **Machined composite aerodynamic structures (nosecone and endplates)** via wet lay-up and CAM manufacturing processes; improved fitment precision by 0.5 mm tolerance during assembly validation.
- Developed and released **GD&T-compliant Computer-Aided Design (CAD) drawings** in *SolidWorks* for TR-24's dashboard and switch plate assemblies, enabling consistent production tolerances and successful design-to-manufacture transition.
- **Designed and integrated a low-voltage wiring harness** using *RapidHarness* for Triton Racing's *first* fully electric Formula car; validated electrical safety, reduced noise interference, and ensured compatibility between power, sensor, and control subsystems.
- **Performed system-level debugging and electrical diagnostics** on legacy TR-14 vehicles during driver training, identifying intermittent grounding and signal integrity issues that limited throttle response; implemented corrective wiring modifications that restored full system function.

UCSD Mechanical Design Laboratory *La Jolla, CA*
Student Analyst *Fall 2025*

- Conducted **tensile testing and fatigue inspection** of aluminum specimens to assess crack initiation and stress concentration effects.
- Applied **failure analysis and dimensional inspection tools** (calipers, micrometers, surface profilometer) to measure wear and verify mechanical tolerances.
- Modeled stress distributions and failure regions in *SolidWorks Simulation* and *ANSYS*.

Technical Skills

- **Fusion 360:** CNC programming, toolpath generation, manufacturing setup, orgin and stock definition
- **Ansys Fluent:** Parametric Studies, Geometry Creation, Creation of Boundary Conditions, Meshing Techniques
- **MATLAB:** Monte Carlo Methods, Data Import and Export, Creation of Customized 2-D plots, Optimization Problems, TR-26 Full Car Model Simulation (WIP)
- **Python:** Manipulating Data Structures, defining classes, Pandas, Matplotlib.pyplot, Defining functions
- **Basic Computer Softwares:** Microsoft Excel, Microsoft Powerpoint, Microsoft Visio, Google Sheets, Figma