NIKITAS KLAPSIS

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EDUCATION

University of Southern California   Los Angeles, CA
Bachelor of Science in Astronautical Engineering   May 2026
Minor in Applications of Artificial Intelligence
GPA : 3.92 / 4.0

EXPERIENCE

Rocket Lab   Silver Spring, MD
Separation Systems Engineering Intern   May 2024-August 2024
- Spearheaded assembly, procedure development, and implementation for a new automatic torque driver for the ALB (Advanced Lightband) assembly line with an expected ROI of over $150,000 over three years, seamlessly meshing with current procedure
- Validated automatic torque driver using process capability analysis from empirical testing and devised custom calibration procedure to ensure driver met ±4% accuracy across 60 lbf-in of range
- Developed a script to read, categorize, and analyze over 13,000 deploy operations to identify abnormal motor currents and differentiate software vs hardware anomalies
- Designed, prototyped, and implemented a new manufacturing fixture for the ALB assembly line pin press within 2.5 weeks
- Investigated solutions to prioritize nonconformance reports and corrective actions using RPN charts and unambiguous wording

USC Rocket Propulsion Lab   Los Angeles, CA
Manufacturing and Quality Engineer   August 2022-Present
- Coordinate the manufacturing schedule for all 31 machined parts of the Fall 2024 flight vehicle Aftershock II including dealing with timeline changes due to scrapped parts, mentoring junior machinists, and communicating with suppliers
- Design and implement shims for precise final integration, adjust camera bay mounts in-situ for optimal footage, and refine TPS paint application, contributing to a record-breaking amateur rocket launch
- Manufacture and inspect components of hypersonic launch vehicle with apogee of 450,000 ft including linen phenolic propellant liners, G11 insulation plates, AL7075 bulkheads, carbon phenolic nozzle, titanium leading edges, and Inconel nosetip
- Develop and improve part fixturing for thin walled propellent casting tubes to decrease production time by 50% and increase part quality, resulting in better thermal insulation and easier vehicle integration
- Integrate and troubleshoot thrust stand and launch rail onsite resulting in static fire success and subsequent launch to 100,000+ft
- Design, manufacture, and integrate improvements to custom CNC router for carbon fiber and fiberglass plies to increase blade stability, add rigidity to travel, and organize cables increasing material efficiency and part accuracy

USC Baum Family Makerspace   Los Angeles, CA
Machinist   June 2023-Present
- Identify and Address shortcomings in layout and usability of the undergraduate manufacturing area, creating better tool stations and measurement stations to boost productivity by over 40%
- Produce components for all undergraduate engineering teams at USC while teaching beginner machinists principles of machining

ACADEMIC PROJECTS

L2 Amateur Rocket Launch Rail   Los Angeles, CA
Lead Machinist   November 2023-December 2023
- Lead the manufacturing of an 8ft tall launch rail for launching L2-L3 amateur rockets, conveying manufacturing issues to improve design ultimately leading to a successful launch with rail deflection less than 0.1in
- Identified potential assembly issues before manufacturing, preventing completed parts from being scrapped and ensuring easy integration within 30 minutes before launch

Pyribs Lunar Lander Tutorial   Glendale, CA
Software Engineer   June 2021-August 2021
- Created a tutorial for the Pyribs machine learning library using the CMA-ME algorithm originating from Dr. Stefanos Nikolaidis's ICAROS lab, better presenting the algorithm's strengths and unique features

SKILLS

- Software: Siemens NX, Solidworks, Python, MATLAB, Ansys, ProTrak CAM, Java, Microsoft Word, Excel, Blender 3D animation
- Manufacturing: Manual/CNC mill and lathe, waterjet, 3D printing, TIG welding, Inspection, Quality Control