JACK PETERSON

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EDUCATION

California Polytechnic State University, San Luis Obispo (Cal Poly) *June 2022 – June 2025*
B.S. in **Aerospace Engineering –** Aeronautics Concentration GPA: **3.57**

RELEVANT COURSEWORK

Aircraft Design, Aircraft Performance, Flight Test, Research & Development, Dynamics & Controls, Aerospace Fluid Mechanics & Thermodynamics, Aerospace Propulsion Systems, Aerodynamics & Flight Performance (Subsonic, Supersonic & Hypersonic), Aerospace Systems Engineering & Integration, Aerospace Structures

SKILLS

Software: MATLAB, Python, Arduino, Simulink, IADS, LaTeX, Git, Linux, CAD (SOLIDWORKS), CFD (Ansys Fluent), FEA (Ansys Mechanical), Communications/Protocols (Serial, Ethernet, TCP, UDP, SSH), Microsoft Office
Hardware: Strain Gauges, IMUs, Pressure Transducers, Thermocouples, Load Cells, Power Supplies, Acra KAM-500, 3D Printing, Soldering, Multimeter, Supersonic & Subsonic Wind Tunnel Testing, CNC, Clear-Com Systems

TECHNICAL EXPERIENCE

Cal Poly Flight Test *January 2025 – Present*
Flight Test Engineer and Test Director

- Performed pitot error calibration, stall, power and weight independent of velocity, climb, and neutral point tests in a heavily modified Vans RV-7 aircraft
- Employed Curtis-Wright IADS server and software to obtain telemetry and analyze/process the test data to establish performance parameters, as well as created physical flight test cards for redundancy
- Successfully used the Acra KAM-500 data acquisition system to collect and transmit the flight test data
- Utilized our ground station for simulation tests and for receiving telemetry from the flights to verify test objectives in real-time

Subsonic & Supersonic Wind Tunnel Tests *September 2023 – Present*
Undergraduate Research & Lab Assistant

- Tested different objects and airfoils using a variety of measurements including pressure, lift, and drag, using tools such as pressure ports, strain gauges, load cells, and flowmeters

Propulsion Lab Tests *September 2024 – Present*
Undergraduate Research & Lab Assistant

- Tested liquid, solid, and hybrid rockets as well as a turbojet engine to evaluate performance parameters
- Used gauges and sensors such as thermocouples, pressure ports, and flowmeters to collect the test data

PROJECTS

Cirrus SR-22T Optionally Piloted Aircraft *January 2025 – Present*
Flight Computer Team

- Created software partitions and a data aggregator/manager for the flight computer to communicate with the hardware such as throttle and control surfaces servos, air data computer, VectorNav, and joystick
- Worked with the flight dynamics team to integrate a simulation framework to test and validate the software partitions
- Worked with the hardware team to test mounting hardware and stress test components, as well as tested integration of systems into the aircraft
- Requirement is to successfully operate a modified SR-22T that can be fully piloted from the ground station

Cal Poly Aircraft Design (Capstone) *September 2024 – Present*

- Objective was to design a light tactical aircraft for COIN/CAS applications
- Used MATLAB and SOLIDWORKS for sizing, performance modeling, aerodynamics and simulations to optimize the design
- Created carpet plots, constraint diagrams, drag/weight build up methods, stability and control models, engineering drawings, and content for design reviews presented to industry

Tippy Maze – Dos Pueblos Engineering Academy (DPEA) *December 2021 – May 2022*
Project Lead of Software

- Programmed LED matrix maze arcade style scoreboard using Python for user interaction and game progress
- Added joystick functionality to the maze by programming the joystick movement to control the stepper and servo motors allowing for a fully functional, arcade style, tipping marble maze, fully integrated with the LED matrix displaying real-time results

LEADERSHIP, VOLUNTEERING, & CERTIFICATES

Civil Air Patrol | Billy Mitchell Award recipient, Cadet Second Lieutenant, Cadet Commander *March 2019 – September 2022*

- Encampment, Non-Commissioned Officer's School (NCOS), and National Flight Academy (NFA) Graduate
- CyberPatriot 3-time National Semi-Finals winner, achieved Platinum Tier as the Windows and Linux operator

Private Pilot License (PPL) | Issued by the Federal Aviation Administration (FAA) *August 2022 – Present*