Andres Perez

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EDUCATION

University of Notre Dame, Notre Dame, IN **Graduation: May 2028**
Bachelor of Science in Computer Engineering | QuestBridge Scholar | Fall 2025 Dean's List GPA: 3.679
Engineering Study Abroad, London, England May 2025 – June 2025
Relevant Coursework: **Digital Integrated Circuits**, **Computer Architecture**, **Applied Embedded Systems**, Logic & Processor Design, Systems Programming, Signals & Information Systems, Digital Design for Interconnected Systems, Electronic Devices & Systems

ENGINEERING LEADERSHIP

IrishSat's Gravitational Orbital Attitude Thermal Lab (GOAT Lab) **Notre Dame, IN**
Electronics Lead | CubeSat Team Aug. 2024 – Present
- Spearheading a team of 6+ engineers for the embedded systems development and PCB design initiatives for testing equipment, particularly a Helmholtz cage project, coordinating hardware-software integration across CubeSat projects.
- Collaborated under expert mentorship to refine IrishSat's Helmholtz Cage design, integrating PCB design (KiCad), control algorithms (MATLAB), and embedded Linux systems (Raspberry Pi) into a unified testing platform.
- Designed and assembled a custom 7.2V 7000 mAh 2S2P Li-ion battery pack using 18650 cells and spot welding.

ENGINEERING PROJECTS

Hardware-Accelerated Human Activity Classifier | **Independent Project** **Long Beach, CA**
Designer July 2025 – Aug. 2025
- Built a wireless data acquisition system using two Arduino Uno R3s, an MPU-9250 IMU sensor, and nRF24L01 RF transceivers.
- Developed a C++ program to stream accelerometer/gyroscope data wirelessly and a Python script to parse it into a labeled walking/sitting dataset.
- Achieved 96.7% classification accuracy with a PyTorch 1D CNN, documenting performance across various hyperparameters.

Helmholtz Cage Driver PCB | **GOAT Lab** **Notre Dame, IN**
Lead Designer Mar. 2025
- Designed a custom Arduino R3 hat PCB using KiCad to integrate and optimize Arduino, magnetometers, and H-bridge circuits, reducing assembly complexity.
- Amended the generated Bill of Materials and Component Placement List files export to JLCPCB for manufacturing.

Portfolio Website| andres-perez.github.io **Long Beach, CA**
Developer Aug. 2024 - Present
- Developed a portfolio website with Astro and Tailwind CSS frameworks as the front end to showcase engineering achievements.

RESEARCH & WORK EXPERIENCE

Engineering Career Assistant | **Meruelo Family Center for Career Development** **Sept. 2025 – Present**
- Coauthoring a newsletter for undergraduates, specifically seniors, highlighting career opportunities and post-graduate experiences from engineering alumni.
- Grew the newsletter to a best 82.25% open rate and 6.12% click rate of 517 recipients.

Student Researcher | **Notre Dame Department of Electrical Engineering** **Aug. 2025 – Nov. 2025**
- Designed a real-time client-server interactive map to parse GPS data and track tether ORION drones.
- Analyzed drone telemetry traffic using Wireshark to validate GPS data was transmitted via MAVLink rather than NMEA strings
- Integrated PyMAVLink to extract and forward real-time telemetry from drones to the visualization client.

SKILLS & LANGUAGE

- C - Python - SystemVerilog - MATLAB - Assembly - Shell (Bash)
- Git / GitHub - Vim - Circuit Analysis - KiCad - SolidWorks - Soldering
- Technical Writing - Wireshark Network Analyzer - Microsoft Office Suite (Excel, PowerPoint, Word, Teams)
- Electronics Test Bench (Function Generator, Oscilloscope, Multimeter, LCR meter, Power Supplies, Electronics Soldering)
- English (Native) - Spanish (Native) - Japanese (Elementary)