

Alan Daniel

(941) 266-4957 • Gainesville, FL • alandaniel@ufl.edu • [linkedin.com/in/alan-daniel1](https://www.linkedin.com/in/alan-daniel1)

EDUCATION

University of Florida <i>Bachelor of Science in Electrical Engineering</i> • Coursework in Progress: Signals & Systems, Circuits 1, C++ Programming	Dec 2028 (Expected) GPA: 4.0 (Current)
State College of Florida <i>Associate of Arts Degree, General Studies (Summa Cum Laude)</i>	May 2026 GPA: 4.0

TECHNICAL SKILLS

Testing: Data Acquisition, Test & Measurement Automation, Oscilloscope, Spectrum Analyzer, Multimeter
Electronics & Optics: Arduino, Breadboarding, Soldering, Microprobing, Photonic Alignment & Coupling
Programming & Software: Java, Python, MATLAB, C, C++, LTspice, Fusion 360, Linux, Docker, Git

RESEARCH EXPERIENCE

Snowmass Lab, University of Florida <i>Undergraduate Research Assistant, PI: Dr. Elham Heidari</i> • Conduct microring quantum squeezing experiments using silicon nitride photonic resonators • Built and validated a Python pipeline for oscilloscope data acquisition, alignment, and noise analysis • Perform free-space alignment, photonic edge coupling, VCSEL characterization, and microprobing	August 2026 – Present
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PROJECTS

Linux Homelab • Built and maintain a headless Linux server running 10+ self-hosted services with redundant ZFS storage • Built a sandboxed MCP environment providing an LLM with command execution capabilities • Used this environment to build Python-based calendar filtering and an LLM-powered WhatsApp bot	December 2025 – Present
ESP32 LED Strip Controller • Built a custom ESP32 LED strip controller with MOSFET switching and Home Assistant integration	April 2026

LEADERSHIP & ACTIVITIES

Semiconductor Career Readiness Organization <i>Analog Design Team Member</i> • Developing analog IC design skills using Cadence Virtuoso toward a planned end-of-year tapeout	August 2026 – Present
STEPUP Summer Bridge Program, University of Florida <i>Mentee</i> • Developed professional communication and interpersonal skills through workplace visits and networking • Built a self-opening mailbox and AI “nagging” houseplant using Arduino embedded programming	July 2026 – August 2026
Aerospace Club (Formerly Rocketry), Suncoast Science Center <i>Rocketry Team Member (First Year)</i> <i>Airframe Team Lead (Second Year)</i> • Led a 7-person airframe team and coordinated across 3 project teams to meet engineering milestones • Optimized wing and tail profiles in XFLR5 to balance aerodynamic performance and stability • Designed solar-powered UAV components under mass, power, and aerodynamic efficiency constraints	September 2024 – June 2026
Jungle Robotics Club, FIRST Robotics <i>Mechanical Team Member</i> • Contributed 350+ hours designing, prototyping, and fabricating 2 competition robots across 2 seasons • Mentored new members in hands-on fabrication techniques and mechanical design fundamentals • Performed maintenance and repairs on a competition robot during the 2024 FIRST World Championship	September 2022 – April 2024