

Andrew Fesenko

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EDUCATION

Bachelor of Science in Computer Engineering

University of Florida Herbert Wertheim College of Engineering • Gainesville FL • May 2027

- University Scholars Program (USP) – selected for competitive faculty-mentored undergraduate research.
- Engineering Project Management Certificate

EXPERIENCE

NPI Engineering Intern

Motorola Solutions

June 2026 – Present

- Built and validated first-article prototypes for new two-way radio platforms as the bridge between design and production, running PCB assembly, functional testing, and manufacturing validation before release to the mass-production facility
- Performed board-level bring-up and debug, functional testing, fault isolation, solder rework, and component replacement — resolving hardware issues on prototype units before they propagated into production builds.
- Root-caused SMT placement and solder paste defects by analyzing inspection data build over build, then modifying Fuji Flexa programs and SPI machine setups to improve first-pass build quality.
- Delivered design-for-manufacturability feedback to design engineering teams in cross-functional new-product reviews, catching assembly and build issues before designs were released to production.
- Designed and fabricated mechanical assembly fixtures in PTC Creo that prevented operator handling errors and improved build repeatability across prototype and production units.

Undergraduate Researcher

Game-based Learning and Digital Experiences (GLaDE) Lab

February 2025 – Present

- Engineered interactive VR simulation game with Unity, enabling real-time problem solving and visualization for engineering statics concepts.
- Programmed Python and C# scripts to procedurally generate problem sets with randomized parameters, each requiring correct physical modeling to remain solvable.
- Modeled 3D statics assemblies in SolidWorks and Blender to simulate forces, constraints, and structural behavior.

Palm Beach State College

Application Support Specialist

August 2025 – May 2026

- Developed and maintained backend REST APIs and webhook integrations automating Student Services workflows across Admissions, Registration, Financial Aid, and Advising.
- Built a Node.js service authenticating to Box via OAuth2 that dynamically creates student folders and processes JotForm webhook submissions for direct PDF upload.

Web Development Intern

June 2024 – June 2025

- Contributed to redesign of the college website and mobile app to improve navigation and user experience.
- Built REST APIs synchronizing form submissions with internal SQL databases, transitioning paper-based college processes into online systems.

PROJECT

Aegis – AI Powered PPE Access Control System

(SwampHacks XI Winner)

- Built an automated PPE compliance system using computer vision to verify safety equipment from live camera feed.
- Trained and deployed a YOLO computer vision model to verify safety equipment from a live camera feed, integrating Gemini for real-time user feedback.
- Implemented ESP32-based access control authenticating users via RFID and PIN entry over UART and GPIO.
- Developed a Flask backend and React dashboard with Socket.io and MongoDB to support real-time analytics and concurrent users.
- Collaborated using Git in a team environment to integrate hardware and software subsystems.

Arduino Self Balancing Cube

- Designed and built a self-balancing cube using ESP32, MPU6050 IMU, and Nidec 24H brushless motors.
- Implemented real-time PID control tuning, with Bluetooth-enabled calibration for dynamic balancing.
- Developed a real-time calibration system, allowing the cube to balance on an edge or vertex.

AI-Powered Interview Simulation Platform

- Built a full-stack interview platform using Next.js, Firebase, and Tailwind with real-time voice interaction.
- Implemented asynchronous processing to support concurrent interview sessions.
- Integrated LLM APIs for dynamic question generation and feedback transcripts.
- Developed dashboards to track user performance across sessions.

SKILLS

Languages: Python, TypeScript, JavaScript, C++, C, Assembly (AVR, RISC-V), SQL, MATLAB

Tools & Platforms: Git, Linux, VS Code, JetBrains IDEs, SolidWorks, PTC Creo, LTspice, Atmel Studio, Fuji Flexa

FPGA & Digital Design: Intel Quartus Prime, ModelSim, Questa, AMD Vitis, SystemVerilog, VHDL, SystemC