

Avrick Altmann

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Project Portfolio: avrickaltmann.com

EDUCATION

Duke University

Aug 2024 - May 2028

B.S.E. in Electrical and Computer Engineering, Minors in Math and Physics

Durham, NC

● Cumulative GPA: 4.00/4.00

Relevant Coursework: Digital Systems, Signals, Network Architecture

WORK EXPERIENCE

Applied Invention

May 2026 - Aug 2026

Software Engineering Intern (Second Summer)

Burbank, CA

- Led independent software / hardware projects for Fortune 500 companies as part of small robotics R&D team
- Refactored a multi-room task planner for a 300 foot gantry in C++ with ROS2 automating inspection routines
- Managed CI/CD, deployment, and logging of all Kubernetes pods involved in robotic control of a greenhouse.

Nicholson / Loh Lab

Jan 2026 - Present

Undergraduate Researcher

Durham, NC

- Designing and Testing PCBs in KiCAD to support quantum computing and trapping Group III Tritel atoms
- Designed/manufactured analog PCB regulating magnetic coil power with 0.1% fluctuation and 1ms response time

Applied Invention

May 2025 - Aug 2025

Software Engineering Intern (First Summer)

Burbank, CA

- Iterated on conveyor system increasing delivery consistency in prototype from 20 to 100% including:
- Designed PCB and injection-moldable IP65 sensor enclosure in Fusion for manufacturing at scale of ~1000
- Developed C++ motor driver and power distribution PCB for Ethernet/IP control with custom TCP/UDP packets

Ganglion (Healthcare Startup)

Jan 2025 - Present

Founding Engineer, Hardware Designer

Durham, NC

- Leading design/manufacturing of the hardware/electrical components of a smartphone-based pupilometer.
 - Iterated and tested bluetooth-compatible digital PCB with ESP32 light sensing / control for a 2027 clinical trial
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ACTIVITIES / PROJECTS

Duke Robotics Club

Aug 2024 - Present

Head of Computer Vision

Durham, NC

- Lead 15 member software team to program an autonomous submarines, winning Finalist at Robosub Competition
- Programmed CV, localization, and task-planning Python packages w/ Docker for continuous autonomous motion

Balancing Robot on Custom Verilog Processors - Course Project

Spring 2026

- Programmed 50MHz Verilog computer from scratch including quick custom square root and inverse trig modules
- Built an FPGA-controlled balancing unicycle robot with assembly scripts and the custom verilog computer.

Duke Game Development Club

Aug 2024 - Present

Events Chair

Durham, NC

- Organized the Triangle Game Jam, the biggest game development event in NC for 150+ people across 6 colleges
- Led creation of multiple games in Unity Engine using C#, winning 1st place at Duke Game Jam

Speak of the Devil A Capella

Aug 2024 - Present

Music Director

Durham, NC

- Direct rehearsals and performances at stadiums, restaurants, and retirement homes for 20-member singing group
 - Arrange and edit 5-part vocal arrangements for contemporary, pop, jazz, and classic a capella songs
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SKILLS / INTERESTS

- **Programming Languages:** Python (Numpy), C++ (ROS), C#, Javascript (ReactJS), UNIX/Linux Systems, C
- **Other Software:** Solidworks (CSWA Certification), Onshape, Git, Unity, Kicad, Matlab, Verilog
- **Tools Used:** Machine Shop Tools, Oscilloscope, Soldering, Arduino, Raspberry Pi, FPGA
- **Other Interests:** Puzzles, A Capella, Theater, Escape Rooms, Backpacking (Eagle Scout)