

ZACHARY COLLAZO

Student, Duke University

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EDUCATION

Duke University — B.S. in Computer Science (*Expected May 2030*)
Durham, NC

EXPERIENCE

Student Intern

Thomas Jefferson National Accelerator Facility (Jefferson Lab) — 2025

- Developed remote control and visualization software using ROS for a UR20 robotic arm with six degrees of freedom used in cleanroom assembly of superconducting RF cavities and presented work to researchers.
- Implemented tooling to monitor and operate the robot remotely via XMLRPC, supporting assembly work with micrometer-level precision in a controlled cleanroom environment.

PROJECTS

Local Business Finder — Next.js, Vercel AI SDK | [GitHub](#)

- Designed and deployed a full-stack Next.js application that uses LLM tooling to recommend local alternatives to national chains.
- Placed 3rd in Virginia at the FBLA Coding & Programming state competition.

Book Review & Recommendation App — Ruby on Rails | [GitHub](#)

- Designed a full-stack Ruby on Rails application that uses vector similarity to provide AI-powered book recommendations based on user reviews.
- Implemented authentication with Devise, vector search with PostgreSQL and PGVector, and Wilson scoring for rankings

LEADERSHIP

Programming Captain

Appomattox Regional Governor's School Robotics Team — 2023-2024

- Led the team to a state championship appearance.
- Designed and delivered coding fundamentals and robotics programming lessons to 20+ students.
- Rebuilt the team website and helped build online presence.

Team Captain

Appomattox Regional Governor's School Cybersecurity Team — 2022-2024

- Taught coding and cybersecurity fundamentals to 10+ students.
- Mentored teammates through competitions and challenges, helping 3 students secure scholarships.

CERTIFICATIONS & AWARDS

- Apple Swift Student Challenge Winner
- National Merit Finalist
- National Cyber Scholar
- Virginia Cyber Defender
- GIAC Foundational Cybersecurity Technologies (GFACT) certified
- In progress: CompTIA Network+ and Security+

SKILLS

Languages: JavaScript/TypeScript, Ruby, Swift, Python, Java, Go

Frameworks & Tools: Next.js, React, Ruby on Rails, Git, Docker, ROS2, Linux, Proxmox

AI: OpenAI API, Vercel AI SDK, Ollama, Prompt Engineering

Cybersecurity: Foundational security concepts (GFACT), network fundamentals, cyber defense & forensics competition experience