

Thomas F. Welch

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EDUCATION

University of Virginia (School of Engineering and Applied Sciences) Charlottesville, VA
Bachelor of Science in Computer Science 2023-2026
Minor in Data Science
Focal Path in Cybersecurity
Cumulative GPA: **3.93**
Involvements: Trigon Engineering Society (Secretary), Assoc. for Computing Machinery, Special Interest Group in AI, Virginia Discovery Museum, Scuba @ UVA, Intramural Sports (Softball, Volleyball)

EXPERIENCE

ST Engineering iDirect Herndon, VA
Software Engineering Intern May 2025 - August 2025

- Adapted and extended a **GraphQL API** to support a restructured data model architecture, enabling new backend features for ground-based hardware infrastructure
- Contributed to production code using TypeScript, YAML, and C++ within a containerized environment leveraging **Docker**, **Kubernetes**, and **AWS OpenShift**
- Shipped backend features that directly supported the deployment of software updates to satellite ground systems, improving operational reliability
- Collaborated in an **Agile** team structure, working cross-functionally with systems architecture and UI teams to ensure alignment across backend and frontend systems

SwiftScore Mount Kisco, NY
Software Engineer May 2024 - January 2025

- Implemented a responsive frontend application utilizing React, Next.js, TypeScript, and TailwindCSS
- Engineered a robust **RESTful API** backend using Flask and Python, incorporating efficient route handling, data validation, and security protocols, containerized using **Docker** and deployed on **Google Cloud Run**
- Integrated a variety of API services including **OpenAI** for advanced language processing, **Llama** for quick and efficient text generation, **Unify.ai** for token-optimized routing between a variety of LLM providers

University of Virginia Charlottesville, VA
Teaching Assistant, Data Structures and Algorithms January 2024 - May 2024

- Provided hands-on instruction in **Java** programming for over 300 students, helping students implement complex data structures and algorithms while adhering to **object-oriented** principles

PROJECTS

Music Recommender June 2025 - August 2025

- Developed a full-stack music recommender web application leveraging **Spotify OAuth** for user authentication and personalized data access, enabling tailored song suggestions
- Engineered the REST API backend with Java **Spring Boot** and built a dynamic, type-safe frontend using React and TypeScript to deliver a seamless user experience

Book Cataloging App January 2025 - May 2025

- Engineered web application to facilitate the cataloging and lending of books
- Developed using **Django**, JavaScript, and HTML for **full-stack** application, implemented **Google OAuth** user authentication and real-time data synchronization with **Amazon S3**, deployed on **Heroku** with automated **CI/CD** utilizing **Github Actions**

SKILLS

Certifications: AWS Certified Solutions Architect Associate, AWS Certified Cloud Practitioner

Programming Languages: Java, TypeScript, Python, C, JavaScript, HTML/CSS, C++, SQL

Technologies: React, Next.js, AWS, Linux, Docker, Git/GitHub, Flask, MySQL, Bash, GCP, Gradle, Maven

Awards: University of Virginia Dean's List: Fall 2023-Spring 2025, ACT Letter of Recognition – **Perfect Score**, CIAC Scholar Athlete – statewide, Connecticut State Seal of Bilingualism in Spanish