

Maxwell Brooks

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Education

Virginia Tech, Blacksburg, Virginia

Expected Graduation, May 2027

Bachelor of Science in Computer Science - Data Centric Computing | Minor in Applied Mathematics

GPA: 3.38/4.00

Past Honors Received: Dean's List with Distinction, Dean's List

Relevant Coursework: Data Structures and Algorithms, Machine Learning, Cryptography, Applied Combinatorics, Differential Equations, Theoretical Statistics, Discrete Math

Skills

Programming Languages: Python, Java, C, SQL, JavaScript, PowerShell

Web Technologies: React, HTML5, CSS3, REST APIs

Frameworks & Libraries: FastAPI, Flask, Langchain

Tools and Platforms: Docker, AWS Lambda, Amazon EC2, Git, Linux, Tesseract OCR, Pinecone, Microsoft Office

Project Experience

AI Learning-Assistant

October 2025 - January 2026

- Engineered a Retrieval-Augmented Generation (RAG) system using Python and SQLite, improving AI response accuracy by 35% through custom text chunking and a vector database using metadata filtering and cosine similarity.
- Optimized document processing workflows by implementing a FastAPI backend that asynchronously handles PDF-to-text conversion and embedding generation, reducing user wait times for document analysis.
- Developed an interactive, responsive user interface using HTML, CSS, and JavaScript, enabling seamless real-time communication between the frontend and a private LLM via JSON-based API calls.

InspireFly Satellite

September 2024 - May 2025

- Collaborated on a multidisciplinary team to develop and launch a CubeSat into orbit, designed to capture images and transmit them to a ground station
- Worked on the programming team, implementing and optimizing flight software in Python to enable communication between satellite components and ground station commands
- Responsible for ProvesKit implementation, git repo management, and class testing

Personal Portfolio Website

December 2025 - Present

- Built a responsive portfolio website using HTML5, CSS3, and JavaScript, implementing smooth scrolling navigation, dynamic project components, and mobile-first design principles.
- Deployed and maintained the site using GitHub and Vercel, demonstrating version-controlled development and continuous deployment to production.

Work Experience

O'Brien's Bar & Seafood Tavern - Host and Server

Annapolis, Maryland

May 2025 - August 2025

- Provided high-quality customer service in a fast-paced environment, managing seating flow, orders, and guests
- Communicated with kitchen staff to manage serving multiple tables at once in hectic restaurant setting

Cape St. Claire Yacht Club - Senior Sailing Instructor

Annapolis, Maryland

June - August 2022 & 2023

- Supervised and instructed children ages 8-16 on sailing Optis and 420 sailboats
- Displayed leadership and collaborative capabilities as well as a deeper understanding of the teaching process of sailing

Certifications

AWS Cloud Practitioner Essentials

Amazon

January 2026