

Education

Virginia Tech

Senior majoring in Computer Science | Minor in Human Computer Interaction | Overall GPA 3.7 | Major GPA 3.8

Achieved Dean's List standing for five semesters | President's List

Relevant Coursework: Computer Systems, Data Structure and Algorithms, Software Design, Computer Organization

Languages: Python, Java, C, HTML, CSS, JavaScript, TypeScript, SQL, MATLAB

Frameworks & Libraries: React, Next.js, Nest.js, Tailwind CSS

Professional Experience

Undergraduate Research Assistant | Virginia Tech (Blacksburg, VA)

May 2025 – Present

- Conduct research in Human Computer Interaction (HCI) exploring how Large Language Models (LLMs) support usability evaluation and user AI interaction.
- Contribute to experimental design, participant recruitment, and data analysis to investigate AI-assisted assessment and feedback methods in iterative design contexts.

Teaching Assistant (UTA) | Virginia Tech Department of Computer Science (Blacksburg, VA)

Jan 2025 – Present

- Support instruction across 2000, 3000, 4000, and 5000 level Computer Science courses, assisting with grading, labs, and course coordination.
- Hold office hours and provide one-on-one guidance to help students debug, design, and reason through complex programming problems, strengthening communication and mentorship skills

Software Engineering Intern | Xephyr Labs (Los Angeles, CA)

May 2025 – September 2025

- Designed and implemented UI/UX components to create intuitive, responsive interfaces while building full-stack features with Next.js and Nest.js.
- Collaborated with cross-functional teams to integrate APIs, streamline backend workflows, and ensure a seamless user experience.
- Assisted in developing a machine learning pipeline integrating GradCafe and IPEDS data to model graduate admission outcomes across institutions.
- Contributed to feature encoding, vector embedding, and model training using Random Forest, XGBoost, and neural networks to produce confidence-based university recommendations.

Software Engineering Intern | Xephyr Labs (Los Angeles, CA)

June 2024 – August 2024

- Developed a proof-of-concept MVP for a healthcare startup targeting 100,000 doctors, leading design–development collaboration to align technical implementation with product goals.
- Designed wireframes in Figma and implemented responsive front-end components in React.js, integrating authentication and registration workflows using Supabase.

Research Intern | CES, ULAB (Dhaka, Bangladesh)

June 2023 – August 2023

- Researched the integration of Generative AI in Bangladesh's education system, examining its potential impacts, opportunities, and challenges.
- Collaborated on data analysis, interpretation, and stakeholder engagement through interviews and surveys with educators to derive actionable insights.

Projects

Personal Web and Video Server | Systems Programming Project

May 2025

- Implemented a high-performance HTTP/1.1 server in C with support for persistent connections, stateless JWT authentication, and efficient video streaming via range requests.
- Debugged and optimized the server using unit tests, fuzzing, and benchmark scripts on 32-core Linux nodes to ensure scalability and correctness under heavy concurrent load.

DreamCatcher | Android Development Project

November 2024

- Built an Android application in Kotlin that allows users to record, view, and manage their dreams using a single-activity, multi-fragment architecture
- Implemented persistent data storage and interactive UI components to support dream creation, reflection, and sharing features.
- Utilized Android Studio, Gradle, and structured layouts to create a clean and responsive user experience across different app screens

Extracurricular activities

Volunteer | CodeKids (Virginia Tech)

February 2024- May 2025

- Generated ideas and developed educational materials for interactive coding activities, making coding fun and accessible for children through the CodeKids platform.

Peer Mentor | Rhizome, LLC at VT

August 2023 – May 2024

- As a peer mentor I am providing guidance and support to fellow students within the Rhizome Living Learning Community, fostering a collaborative and inclusive environment.

Member | Hypatia LLC at VT

August 2022 – May 2023

- Participated in engineering-focused events and volunteering, developing teamwork skills and networking with fellow students.

Skills

Language: Fluent in English, Bengali, Hindi

Software: Microsoft Office Suite, SolidWorks, Figma