Trisha Bajpai

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OBJECTIVE

Computer Science student at Virginia Tech with experience in full-stack development, backend systems, and LLM research. Proficient in Python, React, Node.js, and ML integration using Scikit-Learn. Currently co-authoring research on LLM decision-extraction, building full-stack prototypes, and co-leading backend architecture for an open-source search engine. Looking to apply software engineering principles in internship and research opportunities.

EDUCATION

B.S. in Computer Science – Cumulative GPA: 3.86, In-Major GPA: 3.96 (Exp. Dec 2026)

Virginia Tech, Blacksburg, VA | ***2023 – Present***

- Honors: Virginia Tech Honors College (Inducted 2024), Dean's List (5/5 semesters)
- Key Coursework: Computer Systems, Data Structures & Algorithms, Computer Organization I & II, Multivariable Calculus, Applied Combinatorics and Graph Theory, Linear Algebra, Cryptography

TECHNICAL SKILLS

- Languages: Python, Java, C, JavaScript, TypeScript, SQL
- Frameworks: React, Vue.js, Node.js, FastAPI, Scikit-Learn
- Tools & Environments: Git, GitHub, Docker, Linux, AWS, MongoDB, Vercel, Render
- AI / ML / Data: LLM Workflows, NLP, Data Wrangling, AI/ML Models
- Methodologies: Agile (Scrum), Object-Oriented Programming (OOP), Research Documentation

WORK EXPERIENCE AND PROJECTS

Software Developer Intern (Incoming)

Virginia Cyber Range | ***May 2026***

- Selected to design and implement software components for national-scale cybersecurity infrastructure and virtualization tools. Will apply full-stack development skills (Node.js, TypeScript, REST APIs) to reactive web applications supporting secure, large-scale educational environments using Docker and microservices architecture.

Undergraduate AI Researcher & Co-Author

Virginia Tech IDEEAS Lab – LLMs for Decision Extraction | ***Fall 2025 – Present***

- Researching the ability of LLMs to identify human decision points and the causal influences driving them within unstructured text.
- Benchmarking model extractions against original source data to evaluate the accuracy of model-generated decision logic.

Open Source Search Engine – Data Engineer

Spring 2026 – Present

- Provisioning and configuring virtual machines to host and manage distributed backend infrastructure for a 15-person cross-functional team.
- Designing and implementing data storage architecture using MongoDB and SQL and determining optimal storage strategies, schema design, and data modeling for search index and document data.

ModelLens – Full-Stack ML Project

[GitHub Repository] | ***[Web App]*** | ***Jan 2026 – Present***

- Developed a full-stack application using FastAPI and React to automate machine learning workflows with real-time Scikit-Learn training and inference of regression models.
- Designed a dynamic UI to parse CSV metadata and auto-generate prediction forms; deployed decoupled architecture via Vercel and Render.

CERTIFICATIONS

Introduction to APIs in Google – Guided Project

Coursera | *[Certificate]* | *October 2022*

Retrieving, Processing, and Visualising Data with Python – Capstone

University of Michigan / Coursera | *[Certificate]* | *December 2021*