RIVA JAIN

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EDUCATION

VIRGINIA TECH, College of Engineering — Blacksburg, VA
B.S. Computer Science | Expected Graduation: Spring 2027 | GPA: 3.92
Coursework: Computer Organization, Software Design, Linear Algebra, Multivariable Calculus, Discrete Math

THOMAS JEFFERSON HS FOR SCIENCE AND TECH | Graduation: 2024 | Weighted GPA: 4.39 — Alexandria, VA
Coursework: APCS/Data Structures, Artificial Intelligence, Computer Vision, AP Biology, Statistics, DNA Science, AP Lit

SKILLS

Python, C++, Java, R, HTML/CSS/JS, Flask, Clustering Analysis, Data Visualization, Machine Learning, Biotechnology Research, AI Automation, LLMs, qPCR, Primer design, ML Forecasting, Cupy (CUDA library), SQL, Serial Communication, Linux, Docker, Writing

EXPERIENCE

INPHASE RESEARCH — Fairfax, VA
Software Engineering Intern — May-Aug 2025

- Created machine learning application in order to detect anomalies in complex radio spectral data in real time; programmed and documented steps for data cleaning, preprocessing/blurring/transforming, feature engineering and extraction, **zero-shot forecasting, and unsupervised anomaly detection** through clustering; investigated and successfully implemented **image anomaly detection** on generated spectral images; application scheduled to be deployed for in-house use
- Automated workflow to calculate impact of rain on radio signal, **database** concerning environmental events, display **interactive dashboard** for further investigation, and alert relevant team members; used **InfluxDB and Grafana**

ARCHIMEDES DESIGN TEAM — Blacksburg, VA
Infinitum Subteam Research Programmer, Web Development Team, Advisor — Sep 2024-Present

- Developing neural network to **predict epileptic seizures** from EEG/ECG data and a **React Native app** for users
- Led research review, general body presentations to over 60+, and biweekly faculty meetings; **presented at conferences**
- Designed and led programming for **front-end of organization portal** as well as back-end logic; elected to act as advisor to incoming team, leading meetings, finding sponsors, presenting to prospectives, holding programming workshops, and more

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY (APL) — Laurel, MD
Data Science/Computing Intern — Jun-Aug 2022, Jun-Aug 2023

- Modeled opioid overdose trends using **spatio-temporal clustering, regression, and random forests**; **findings presented to state government**; selected for lab-wide research conference
- Built ML models linking bat activity to Ebola and Nipah Virus to predict outbreaks; delivered proof of concept to client

ONGOING RESEARCH/WORK

WASP LAB | **Finetuning LLMs in order to reduce bias** in university admissions AI; using **RAG and agentic workflows** to make output more reliable; working towards publication

BROWN/DATABRIDGE LAB | Virginia Tech lab for **data-related consulting**; AI/ML algorithms for **drug discovery**

ACADEMY OF INTEGRATED SCIENCES | Building email templates using HTML/CSS; photography and storywriting for department website

PROJECTS

HANDWRITING NEURAL NETWORK

- **Built neural network from scratch**, implementing calculus operations, prioritization algorithm, back-propagation and other optimization techniques; successfully trained model with MNIST handwriting dataset to recognize handwriting

INTRST

- Designed and implemented **agentic AI workflow** with Langchain, using LLMs such as Gemini to provide and dynamically visualize financial advice; integrated with brokerage, investment, and budgeting data; won college hackathon prize