

Shiva Pochampally

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EDUCATION

Virginia Tech

Blacksburg, VA

B.S. CMDA and Computer Science, Minors in Mathematics and Statistics

Expected May 2027

- **Relevant Coursework:** Integrated Quantitative Science I, Integrated Quantitative Science II, Data Structures Algorithms, Linear Algebra, Multivariable Calculus, Discrete Mathematics, Computer Organization I
- **GPA:** 4.0/4.0

EXPERIENCE

Data Engineering Intern

Jun. 2025 – Jul. 2025

Hexaware Technologies

Herndon, VA

- Developed internal HR chatbot tools using AWS services (**Aurora, EC2, SNS**), **PostgreSQL**, and **LangChain** for **Generative AI** use cases
- Built a **Retrieval-Augmented Generation (RAG)** system that converted Excel files into **vectorized documents using ChromaDB**, enabling HR to query salary-related data through natural language
- Engineered an **SQL agent** by leveraging **LangChain, AWS Aurora, Pandas, and NumPy** for querying and preprocessing HR data, while also integrating **safeguards with AWS SNS** for sensitive queries
- Gained hands-on experience with **key AWS services (VPC, RDS, DynamoDB)**, **Generative AI architectures (RAG, LLMs)**, and **data handling** with PostgreSQL

Quantitative Researcher

Feb. 2025 – Present

Dataism Laboratory For Quantitative Finance

Blacksburg, VA

- Formerly conducted **literature review** on using **Convolutional Neural Networks** for **Time Series forecasting** by pruning layers using a geometric separation index and a smoothing index (Spring 2025)
- Currently conducting research involving using **Statistical Permutation Tests and Block Bootstrapping** in **multivariate Time-Series** settings to better improve upon **dependence measures** (Spring 2025 - Present)

Undergraduate Researcher

Feb. 2025 – Present

IDEAS Lab

Blacksburg, VA

- **Analyzing and Creating Codebook** for an open dataset from an economist that surveyed over 500 people about perceptions of inflation

Software and Data Engineer

Jan. 2025 – Present

Virginia Tech ENGE Dept. IDPRO SMART Project

Blacksburg, VA

- Assisted in developing localized Smart Home Ecosystem features for **IOS App using Apple HomeKit framework along with Swift and SwiftUI in XCode IDE**
- Assisted in the creation and development of Machine Learning Algorithms for **Facial and Speech recognition** for **Localized Smart Home Ecosystem that focuses on Data Privacy and User Convenience**

Software Development Intern

Jul. 2024 – Sept. 2024

Campus Collect

Remote

- **Migrated Codespace** from CSS to Tailwind
- **Built Contact and Support Pages using Tailwind**

Team Captain of Math Instructors

Feb. 2023 – Mar. 2024

Mathnasium

McLean, VA

- **Tutored** Students K-12 in **Mathematics**
- **Led Instruction team** to work productively
- Created and **implemented numerous positive reinforcement methods** to ensure students effectively learn

PROJECTS

- FoodDecisive** | *Node.js, HTML, CSS, Bootstrap, Svelte.js, Docker, MongoDB, Meta Ollama* Sept. 2024
- **Developed a full-stack web application** that takes user's input for a questionnaire and generates a recipe as a submission for VTHacks 12
 - **Implemented propelAuth** to serve as the login/sign up User Interface
 - **Built frontend** web pages using Bootstrap and Svelte
 - **Deployed Meta Ollama** on Docker to generate recipe after users take questionnaire
 - **Implemented MongoDB** to store users' previously generated recipes
- myTimes** | *Node.js, Svelte.js, MongoDB* Aug. 2024
- **Developed an app** to record user's record times for sports
 - **Implemented mongoDB** to store users' record times
 - **Utilized Vite.js and React Router** to optimize and tie routes together
- Data Visualization** | *Java, GitHub* Nov. 2024
- Collaborated with a team of four to create a **Java-based application**, leveraging advanced **object-oriented programming principles and abstract data structures** to develop an effective solution for data parsing and visualization. Delivered a tool that efficiently processes input data, applies insertion and selection sorting algorithms, and presents the results in a bar graph format through a GUI.
 - Engineered sorting functionality and a GUI for data visualization, ensuring **precise data representation and sorting reliability**. Successfully resolved parsing errors and display issues, **improving user experience and ensuring dependable performance**.
 - **Developed robust data parsing techniques and implemented error-handling mechanisms** to improve system reliability. **Boosted application performance and usability**, ensuring accurate data visualization and dependable sorting outcomes.

TECHNICAL SKILLS

Languages: Java, C, Python, R, JavaScript, HTML, CSS, Swift, SwiftUI, and MATLAB
Developer Tools: Git, VSCode, Xcode, and Eclipse
Writing: LaTeX, Office

CERTIFICATIONS

Certifications: AWS Certified Cloud Practitioner, AWS Certified AI Practitioner