

Shubhrangshu Debsarkar

302-729-6242 | shubhrangshuds@gmail.com | github.com/ShubsDS | Brambleton, VA | [LinkedIn](#)

EDUCATION

University of Virginia

Charlottesville, VA

Bachelor of Science in Computer Science, 3.97 GPA

Expected May 2027

- Relevant Coursework: Data Structures and Algorithms, Computer Systems, ML Image Analysis, Cybersecurity
- Organizations: Machine Learning @ UVA, Virginia Initiative on AI Safety

EXPERIENCE

Quantitative Developer Intern

June 2026 – August 2026

Marshall Wace

New York, NY

Undergraduate Researcher

June 2024 – Present

UVA Positron Emission Tomography Lab

Charlottesville, VA

- Designed a machine learning pipeline to derive a blood input function from rodent PET scans
- Devised **LSTM** and **U-NET** models based on 3D-image and time-series data through **PyTorch** and **NumPy**
- Improved error metrics of predicted blood input function by **30%** using an interpolation approach
- Presented abstract to an audience of **50+** students and professionals at UVA Radiology Research Week

Software Engineer Intern

September 2025 – November 2025

Credence

Charlottesville, VA

- Created vector databases and semantic tooling to match external Charts of Accounts to internal datasets
- Used Django and PostgreSQL to match **1000+** external accounts to 27 categories with **87%** accuracy

Machine Learning Research Intern

May 2025 – July 2025

Virginia Initiative on Cosmic Origins

Charlottesville, VA

- Designed and implemented a scalable deep learning pipeline for stellar Point Spread Function reconstruction, achieving **0.03** Mean Absolute Error (MAE) on James Webb Space Telescope data
- Adapted state-of-the-art Autoencoder architecture for distributed GPU training and high-res image reconstruction
- Utilized novel synthetic data generation techniques with Fourier Transforms to automate a **5x** dataset expansion

AI Evaluation Intern

November 2024 – May 2025

Logistics Management Institute

Charlottesville, VA

- Deployed unique **Retrieval Augmented Generation** (RAG) pipelines on custom texts using **ChromaDB**
- Engineered datasets containing **5000+** multi-hop reasoning questions to rigorously evaluate RAG systems
- Implemented and tested novel algorithms (**GraphRAG**, **HybridRAG**) on multi-hop datasets

LEADERSHIP

President: Machine Learning @ UVA

- Organized and delivered technical lectures to **30+** students on advanced machine learning topics (ensemble learning, Adam optimizer), strengthening members' applied understanding of model performance and architecture
- Led Client-focused AI projects with cross-functional teams, building production ready chatbots and pipelines

PROJECTS

Postful: AI-powered social media strategy | *Javascript, Node.js, React Native*

- Co-developed a mobile app with React Native to optimize small business social media content strategies with AI
- Built a Model Context Protocol (MCP) server in Node.js, deployed on Google Cloud Platform, enabling dynamic agent workflows with access to **6+** multimodal tools (text, image, API data) and **<200ms** response latency

UVA Career Guidance Chatbot | *Python, FastAPI, Next.js*

- Led a team of **5** to design and deploy distributed, cloud-native RAG microservices using **AWS** (EC2, S3) and **Qdrant**, integrating CI/CD pipelines with **Docker** and **GitHub Actions** to accelerate model iteration by **30%**
- Constructed a Next.js context-aware chatbot using Google Gemini, hosted on the UVA Career Center website

TECHNICAL SKILLS

Languages: Python, Java, C/C++, R, C#, JavaScript, SQL, MATLAB, TypeScript, HTML/CSS

Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, ReactJS, FastAPI, Node.js

Data & Developer Tools: AWS (SageMaker, EC2, S3), Google Cloud AI, Docker, Tableau, Vim, Git, GitLab, GitHub