

Jacob Sheikh

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Education

George Mason University GPA: 3.55
B.S. in Computer Science/Software Engineering

Expected Graduation: May 2025
Fairfax, VA

Technical Experience

GMU College of Science, Computational Data Science 230

Feb. 2023 - Present

Teaching Assistant

Teaching an introduction to programming and statistics class.

- Holding weekly lectures for students
- Grading programming assignments/quizzes

Tools used: **Python** and libraries like numpy, scikit py, matplotlib, etc.

General Logistics

Dec. 2023 - Present

Software Engineering Intern

Creating an automation dashboard at a startup.

- Writing scripts in NodeJS to auto-magically check the status of cameras.
- Pioneering company culture: creating documentation, workflows, etc.

Tools used: **NodeJS**, **PostgreSQL**, **HPC**

GMU Deep Lifelong Learning Ph.D. Assistant

Dec. 2023 - Present
Virginia

Undergraduate Research Assistant

Researching Deep Lifelong Learning methods.

- Using the GMU Research HPC Environment to finetune multiple PyTorch models.
- Testing various similarity measures and evaluating model network performance.

Tools used: **Python** and relevant libraries (e.g. Transformers, numpy/pandas, sentence transformers, CUDA).

GMU Natural Language Processing Lab

Sept. 2023 - Present
Virginia

Undergraduate Research Assistant

Working with machine learning and deep learning methods in researching medical text extraction methods.

- Constructing BERT-based pipelines for entity detection in diverse medical data.
- Responsible for rapidly proposing, prototyping, and presenting various text classification pipelines.

Tools used: **Python** and relevant libraries (e.g. Transformers, numpy/pandas, sentence transformers, CUDA).

Department of Defense

July 2023 - Nov. 2023
Virginia

AI/ML Intern

Applied deep learning techniques to develop a standalone application for document interaction.

- Implemented retrieval-augmented-generation (RAG) semantic search to allow LLMs to provide authentic citations and avoid hallucination.
- Fine-tuned and prompt-engineered models taken from Hugging Face.

Tools used: **Python** and relevant libraries (e.g. Transformers, numpy/pandas, sentence transformers).

MIT FutureMakers, Machine Learning Track

June 2022 - Mar. 2023
Remote

Project Manager

Applied deep learning to solve real-world problems with diversity, equity, and inclusion.

- During first month, studied deep learning techniques from a theoretical perspective.
- Won the classwide Hackathon with the Legal Lingo website.
- Over the next year, collaborated remotely to further develop Legal Lingo.
- Presented Legal Lingo at the ASU + GSV 2023 Educational Technology Summit.

Tools used: **Google Colab** as an HPC environment, **Javascript** and **Angular** as a front-end interface.

U.S Embassy Kuala Lumpur, Information Resource Management Bureau
Seasonal Hire

June 2021 - Mar. 2022
Malaysia

Developed agile software for special projects.

- Rapidly developed software to aggregate diplomat medical information.
- Worked alongside the Malaysian Ministry of Health in a diplomatic environment.
- Facilitated travel of 300+ US diplomats during a COVID-19 lockdown.

Tools Used: **Microsoft Power Automate** as a scripting tool to manipulate Excel spreadsheets.

Technical Skills

- **Natural Language Processing, Deep Learning, Computer Vision with Python**
- **Development with Javascript, Angular, NodeJS, NoSQL, Java, C**
- **Unit testing in Java with JUnit**
- **Documentation with Javadocs**

Non-Technical Skills

- Project management / Agile development process
- Technical communication with non-technical teammates and managers
- Collaboration in diverse team settings, abroad/remotely/in-person

Projects

Legal Lingo

MIT FutureMakers 2023

- A web app built with Angular, and Python, using CNNs and NMTs to provide legal translation services.

Internet-of-Things Sensor Network

Data Structures and Algorithms Course, 2022

- A Java program that simulates a physical network of Internet-of-Things (IoT) devices via implementation of a custom graph class and performs network optimization by destroying redundant connections.

File Authentication with Hashing and Merkle Trees

Data Structures and Algorithms Course, 2022

- A Java program that implements a custom complete binary tree to authenticate files stored by a client on a cloud server.

Makerspace Management

Personal Project, 2021

- A web app developed with Angular, NodeJS, Firebase, and Heroku. Allows users to host spaces that other users can join and interact with particular items within the space.

Comparative Naive-Bayes Models

Research Project, 2021

- Conducted original research on the comparative performance of two Naive-Bayesian Natural Language Processing models.
- Authored a report on the efficacies of the two models across different languages with different syntactic structures. Available to view on linked Github.

Other Experience

GMU Housing and Residence Life

Aug. 2023 - Present

Residential Advisor

Virginia

- Fostered a supportive and inclusive residential community by organizing engaging programs and activities.
- Demonstrated strong interpersonal skills through effective communication with residents, addressing concerns, and promoting a positive living environment.
- Collaborated with fellow RAs and university staff to coordinate large-scale events, enhancing campus-wide cohesion.

GMU Information Technology Support Center
IT Support Analyst

Mar. 2023 - Aug. 2023
Virginia

- Provided exceptional technical support to end-users, troubleshooting hardware and software issues with a focus on prompt issue resolution.
- Responded to help desk tickets, resolving technical problems efficiently and maintaining a high level of customer satisfaction.
- Collaborated with cross-functional teams to escalate and resolve complex technical issues, ensuring minimal downtime for end-users.

Senor Tequila's, Fairfax

July 2022- Aug. 2022

Restaurant Host

Virginia

- Coordinated online orders with kitchen staff.
- Greeted, seated guests.
- Learned, practiced different roles in the restaurant industry.