Uzair Mohammed

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Education

Michigan State University - Honors College, College of Engineering
B.S. in Computational Data Science, B.A. in Mathematics *Grad: Apr. 2025*

Relevant Coursework: Linear Algebra, Deep Learning, Data Analysis & Visualization, Data Structures & Algorithms, Database Systems, Scientific Programming, Differential Equations

Experience

Data Scientist Intern - Global Data Insights & Analytics - Ford Motor Company *May 2024 – July 2024*

- Developed an embedding-based topic model using Gemini and BERTTopic to analyze weekly trends on 4 months of social media posts relating to quality issues.
- Optimized data pipeline on GCP, reducing time to process a BigQuery table to 1 minute.
- Collaborated with cross-functional teams to determine necessary insights and metrics for tracking quality trends

Workshop Director & Advisor - Artificial Intelligence Club @ MSU *Sep. 2022 - Present*

- Provide over 1000 students with hands-on learning in in computer vision, natural language processing, and generative AI using Scikit-Learn, PyTorch, OpenCV, and other technologies. Doubled member engagement over 3 semesters.
- Lead a team of organizers to plan and execute weekly meetings at MSU's premier computer science student organization.
- Establish timelines, assess content quality, develop connections, and implement feedback from advisors and students.

Poster Presentation - University Undergraduate Research and Arts Forum *Apr. 2022*

- Analyzed properties of a novel combinatorial game using alpha-beta pruning, and benchmarked complexity against similar games, using SciPy and SageMath. Presented findings and published a video at UURAF to >100 researchers and students.

Projects & Awards

FedUp - SpartaHack 9 - **Awarded First Place** *Jan. 2024*

- Implemented a decentralized federated machine learning network to train models while maintaining data privacy. Collaborated with a team of 4. Improved accuracy over conventional ML methods.

Terminal AI - MHacks 16 - **Awarded Second Place** *Nov. 2023*

- Collaborated with a team of 4 to deploy a Python library and CLI to PyPi that captures errors, analyzes a codebase, and gives intelligent suggestions in the terminal using GPT. Awarded "best developer tool" in the MHacks 2023 hackathon

Open Source Marketplace - NASA Space Apps Challenge - **Awarded Global Nominee** *Oct. 2023*

- Developed an app with a team of 5 to network contributors and open science repositories based on skills and interests.
- Trained a recommendation algorithm with link prediction and OpenAI embeddings to connect hundreds of users and repos.

Live Transcription Glasses - HackUIowa 2023 - **Awarded Best Use of AI** *Sep. 2023*

- Developed the back-end of a full stack speech recognition device with a 4-person team to improve accessibility.
- Integrated Cohere and Google Cloud Speech to Text APIs to display and summarize live conversations to one's field of view.

CTF Cybersecurity Challenge - Hack Dearborn 2 - **Awarded First Place** *Oct. 2023*

Skill Ranking Algorithm - Independent Project *Jan. 2021 - Dec. 2022*

- Invented a Bayesian model to match players and estimate skill for competitive games, serving >**200 users**.
- Configured a CI/CD pipeline with GitHub Actions and Docker to deploy an app to AWS EC2, reducing build time and errors.

Technical Skills

Languages & Technologies: Java, Python (PyTorch, Scikit-Learn, spaCy, Pandas), LLMs (Gemini, Claude, GPT), C++, R, Typescript, JavaScript, MATLAB, Git, SQL (Postgres, SQLite), Hugging Face, MongoDB, Docker, AWS, Azure, Google Cloud Platform (BigQuery, Vertex AI), Maple, SageMath.

Honors

Dean's List (2021-2024) National Merit Semifinalist (2021) MSU Special Merit Scholarship (2021) Eagle Scout (2018)