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*
- Engineered a tool enabling the early identification and visualization of vehicle quality issues that surface on social media.
- Designed an embedding-based topic model using Gemini and BERT-topic to extract weekly insights from online posts.
- Collaborated with cross-functional analytics teams to tailor insights, interface, and functionality to stakeholder needs.
- Optimized data pipeline on GCP, reducing time to ingest and process 4 months of data from BigQuery table to 1 minute.

Research Assistant - Computer Science & Engineering - MSU   *Jan. 2025 – Present*
- Collaborated with a team of three to design and implement a web application that synthesizes FDA drug data for manufacturers and clients, eliminating resource wastage from paper patient information leaflets.
- Constructed system design of database and API. Deployed container to Azure, using MongoDB, Docker, Node.js, FastAPI, and Next.js. Developed a RAG chat bot leveraging Langchain and FAISS, reducing costs by 89%.

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 partnerships, and implement feedback from advisors and students.

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

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 collaborative filtering, link prediction, and OpenAI embeddings.

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 stochastic Bayesian model to calculate competitive ratings of players in arbitrary games.
- Configured unit tests and a CI/CD pipeline with GitHub Actions and Docker to deploy serverless app to AWS EC2 and Cloudflare Workers, eliminating bugs, reducing latency to 200ms, and reducing costs to $0 while serving >200 users.

TECHNICAL SKILLS

Languages & Technologies: Java, Python (PyTorch, Scikit-Learn, spaCy, Pandas), C++, R, Typescript, JavaScript, MATLAB, Git, SQL (Postgres, SQLite), Hugging Face, (Gemini, Claude, OpenAI APIs) 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)