Uzair Mohammed

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Education

Michigan State University - Honors College, College of Engineering — East Lansing, MI
Bachelor of Science in Computational Data Science. Minor in Mathematics — *Sep. 2021 - Apr. 2025*

Relevant Coursework: Data Analysis, Machine Learning, Deep Learning, Data Visualization, Statistics, AI Safety & Ethics, Software Engineering, Data Structures & Algorithms, Database Systems, Scientific Programming, Linear Algebra, Differential Equations, Physics, Economics, Linguistics.

Experience

Workshop Director - MSU Artificial Intelligence Club — *Sep. 2022 – Present*

- Lead a team of organizers to plan and execute weekly workshops in computer vision, natural language processing, generative AI, and data analysis. Assess content quality, establish timelines, delegate tasks, and implement feedback from advisors and students to double member engagement over 3 semesters.
- Provide over 1000 MSU students with hands-on learning in Scikit-Learn, PyTorch, LangChain, Hugging Face, Kaggle, and other AI technologies.

Undergraduate Researcher - University Undergraduate Research and Arts Forum — *Sep. 2021 - Apr. 2022*

- Formulated and investigated optimal strategies for a novel turn-based combinatorial game in SciPy and SageMath
- Visualized alpha-beta pruning decision tree using Matplotlib and benchmarked complexity against similar games.
- Presented findings and published a video at the 2022 UURAF forum to **>100** researchers and students, contributing to the fields of experimental mathematics and combinatorial game theory.

Projects & Involvement

Live Transcription Glasses - HackUIowa 2023 Project | Awarded Best Application of Artificial Intelligence — *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.

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

MSU Quantitative Finance Club - Member — *Sep. 2023 - present*

- Actively engage in weekly meetings to learn about quant development and research from industry professionals.

AI Resume Matcher - NLP Project — *Jan. 2023*

- Designed a semantic search pipeline to match resumes to job postings using spaCy and the Cohere API. Analyzed **over 50 skills**. Prototyped a Flask web app with a team of 4 for the SpartaHack 8 Hackathon.

Smart Attendance - Computer Vision Project — *Sep. 2021 - Jan. 2022*

- Developed a web app with a team of 6 to take attendance with a camera.
- Applied a convolutional neural network in Dlib to recognize and compare faces, achieving **99.4% accuracy**.

Statistical Skill Ranking Platform - Statistics Project — *Jan. 2021 - Dec. 2022*

- Innovated a Bayesian Elo model to match and manage leaderboards for players of 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.

Other Projects

Video clip extractor using OpenAI Whisper, PCA, BERT, and NLTK. Sentiment analysis-powered chat moderation. Rocket League bot using reinforcement learning. Agent based modeling of disease, forest fire, and evolution.

Technical Skills

Languages & Technologies: Java, Python (PyTorch, Scikit-Learn, spaCy, pandas, NumPy, SciPy, SymPy, Matplotlib), C++, R, Typescript, JavaScript, LangChain, Git, CI/CD, Agile Development, Streamlit, Flask, REST APIs, SQL (Postgres, SQLite), GraphQL, Vector databases, MongoDB, NeonDB, Supabase, Docker, AWS, Azure, Cloudflare, Google Cloud Platform, VS Code, PyCharm, MATLAB, Maple, SageMath, LaTeX.

Honors

Eagle Scout (2018) National Merit Semifinalist (2021) MSU Special Merit Scholarship (2021) Dean's List (2021-2023)