Ayaan Shaik

shaikaya@msu.edu | (201) 539-1266 | linkedin.com/in/ayaan-shaik | ayaanmayooq.vercel.app

EDUCATION:

Master of Science in Computer Science | Michigan State University   Aug 2023 – May 2025
- GPA: 3.916/4.0 | Graduate Teaching Assistantship
- Specialization: AI/ML, Computer Vision, AIoT, Optimizations and Real Analysis, Data Mining, Database Systems

Bachelor of Science in Computer Science | Michigan State University   Sep 2020 – May 2023
- GPA: 3.935/4.0 | Dean's list (All Semesters) | Graduated with Honors
- Double minor in Computational Math and Entrepreneurship and Innovation

SKILLS:

- **Programming Languages:** Python, C, C++, JavaScript, TypeScript, C#, Java, SQL, HTML/CSS, Shell
- **Technologies/Concepts:** Azure, Git, Node.js, Express, Angular, React, MongoDB, AWS (Lambda, S3, SageMaker), OpenCV, MySQL, TF, PyTorch, Domino, Oracle, Linux, Unity, OOP

WORK EXPERIENCE:

Machine Learning Intern | MultiPlan Corporation   Jun 2024 – Present
- Delivered a high-impact predictive model, by leveraging a custom loss function based on ordered probability, to improve appeal forecasting and negotiation, generating additional **12% savings** for the clients translating to **$8,780,000.**
- Developed a framework for feasible big data model training on neural networks and gradient boosting algorithms, optimizing GPU-based matrix computations, resulting in a **150X speedup** reducing training time from 50 mins to 2 secs.
- Automated API workflows, streamlining data collection and processing for **9,000,000 claims** saving the team **40 hours** of work per month by eliminating manual data retrieval tasks and enhancing training data for modelling.

Teaching Assistant | Michigan State University   Aug 2022 – May 2024
- Courses: Computer Vision, Computer Networks, Matrix Algebra with Computational Applications.
- Mentored 140+ students through 1:1 and group sessions, resulting in 20+ students improving their grades to 3.5+.
- Created course and exam prep materials and collaborated with professors and TAs to enhance the course experience.

MSU Capstone Software Developer | Vectorform   Jan 2023 – May 2023
- Developed a Unity-based VR application that provides an innovative virtual training space for AI-enhanced training.
- Fine-tuned GPT-3 Davinci on 300 conversations and optimized token utilization for context-driven responses, **saving 1000 tokens** per conversation and a **4-second improvement** in response times.
- Engineered a web application for training replay utilizing Angular, Node.js, and Azure SQL and blob storage.
- Integrated an embedded interactable WebGL build of a free-cam training replay system.

Software Development Intern | Roosevelt Innovations   May 2022 – Aug 2022
- Implemented an enterprise-level feature (using MEAN stack REST, JSON, Kafka, and containerization) that leverages client-specific information and quotes to accurately **recommend insurance packages.**
- Collaborated closely with underwriting and claims analysis experts to gain insights into claims handling processes.
- Utilized concepts of ML, AI, NLP, word embeddings, and Word2Vec to generate **94%** of existing business insurance rules with **99% precision.**

PROJECTS:

NN Diagram to Code   Jan 2024 – Present
- No-code sandbox that enables users to **visually design neural networks** diagrams and automatically convert them to code.
- Streamlines the process of translating conceptual neural network designs into practical implementation, fostering deeper understanding and accessibility for both new learners and experienced developers.

Automated Runtime Verification   Nov 2023 – Dec 2023
- Contributed to research on automated runtime monitors for distributed real-time systems. (focus on security and privacy)
- Developed a Python script that **automates enforcer file generation** for suppressing vulnerable variables in a JS file.

Robinhood Trading Bot   Jul 2023 – Aug 2023
- Modelled an ensemble with sentiment analysis and time series forecasting, achieving a **63% win rate** in stable markets.
- Enhanced performance with a custom paper trading environment and strategy integration, increasing win rates to **79%** when combined with the ensemble model's predictions.