

# Ayaan Shaik

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## EDUCATION:

### **Master of Science in Computer Science | Michigan State University**

**Aug 2023 – May 2025**

- GPA: 3.833/4.0 | 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, Linux, Unity, OOP

## WORK EXPERIENCE:

### **Teaching Assistant | Michigan State University**

**Aug 2022 – Present**

- Courses: Computer Vision, Computer Networks, Matrix Algebra with Computational Applications.
- Guided academic success of students by conducting one-on-one mentorship sessions 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 via Python on 300 conversations and optimized token utilization for context-driven responses, resulting in savings of 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 Machine Learning, 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.

### **Car Classification on Video Data**

**Dec 2022 – Jan 2023**

- Identified and classified cars make, model, and year (16 classes) with 71% overall accuracy by leveraging transfer learning with pre-trained VGG16 model to implement semantic segmentation and image classification on video data.

### **Panorama Stitching**

**Sep 2022 – Oct 2022**

- Developed a custom Python library encompassing image processing capabilities, including image convolution, edge, corner, and blob detection, homography transform fitting using RANSAC and image stitching using SIFT feature matching.

## LEADERSHIP / INVOLVEMENT:

- Mentor for first-year BS/MS students at MSU

**Oct 2023 – Present**

- Founder & Owner, Ayaan Eye Care

**Jul 2023 – Present**

- International Scholars Advisory Board Social Chair

**Aug 2022 – Dec 2022**

- Programming Club E-Board

**Jan 2021 – Apr 2021**