Mohamed Shaik

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EDUCATION

George Mason University   *Fairfax, VA*
Bachelor's in Computer Science   *August 2022 - May 2025*
- **GPA:** 3.89/4.0 - Dean's List (7 consecutive semesters)
- **Relevant Coursework:** Software Engineering, Artificial Intelligence, Operating Systems, Object-Oriented Programming, Data Structures & Algorithms, Databases, Computer Vision, Data Mining, Low Level Programming, Embedded Systems

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript, TypeScript, C/C++, Rust, SQL, HTML/CSS
Frameworks and Libraries: React, TensorFlow, PyTorch, Node.js, Flask, Svelte, NumPy, JUnit
Tools: Git, Docker, Kubernetes, AWS, MongoDB, PostgreSQL, Linux, RESTful APIs

EXPERIENCE

Research Assistant   *Fairfax, VA*
Department of Computer Science   *September 2024 – Present*
- Designed and deployed a multi-sensor volumetric capture pipeline using 4 Azure Kinect cameras synchronized with a RabbitMQ messaging broker, enabling real-time 360° reconstruction of point clouds at 30 frames per second
- Developing a federated learning framework for privacy-preserving biometric authentication, increasing model accuracy to 94.3% through pretraining and hard negative sampling while scaling securely to a 50,000+ user dataset

Software Engineer   *Remote*
Purgeon - LGTM LLC   *September 2024 – May 2025*
- Built a performant cross-platform file management tool using Svelte, Tauri, Python, and Rust, capable of handling over 10,000 files per instance while saving users an estimated 45 minutes per week in search and organization tasks
- Engineered a lightweight ML pipeline supporting real-time file classification, batch renaming logic with regex templating, and automated cleanup suggestions with an achieved accuracy rate of 80% across 500+ file batches

Undergraduate Teaching Assistant (5x)   *Fairfax, VA*
College of Engineering and Computing   *January 2023 – January 2025*
- Guided over 600 students across C, Java, and Python coursework over 5 semesters, with students showing a 15% average improvement in assignment and exam performance due to targeted feedback and code review sessions
- Organized and conducted 20+ exam prep lectures with custom study guides covering complex algorithmic topics such as linked lists, recursion, graph traversal, and dynamic memory, resulting in demonstrable student comprehension gains

PROJECTS

AniList Wrapped | *Python, Matplotlib, NumPy, PIL/Pillow, GraphQL*
- Led team to build viral analytics service serving 50K+ users over 3 years, generating personalized infographics (radar charts, word clouds, heatmaps) that achieved 200K+ social media impressions and organic community adoption
- Architected complex rendering pipeline handling 18K+ concurrent year-end requests using queue-based architecture and caching strategies; reduced memory usage by 40% through optimized image operations

Parkinson's Care VR System | *C#, Unity, TensorFlow, React, Flask*
- Developed VR diagnostic tool for Parkinson's assessment using Unity/TensorFlow to track biometric data (head, limb, voice, tremor); achieved 92% clinical accuracy with real-time monitoring dashboard for physicians

WALL-E | *Python, React, GPT-4 API, OpenCV, C++, Embedded Systems*
- Engineered dual-purpose cleanup robot and file organizer, combining autonomous waste detection with LLM-powered digital file management to achieve 95% classification accuracy through custom prompt engineering

Peekabot | *Python, OpenCV, AWS IoT, Raspberry Pi, Arduino*
- Built an IoT-enabled child safety robot with real-time pose detection using OpenCV and Mediapipe, configured to monitor toddler behavior, detect hazardous actions, and send alert streams to cloud services via AWS IoT

NaviguideAI | *Java, Python, TensorFlow, Computer Vision, PyAudio*
- Designed an AI-powered indoor navigation system for the visually impaired using a CNN-ViT fusion model with a ResNet-18 backbone for real-time obstacle detection, achieving 92% accuracy with 127ms inference latency

ACHIEVEMENTS

- 7x Hackathon Winner: Georgetown H2AI (2 awards), PatriotHacks 2024 (3 awards), HackOverflow 2024, PatriotHacks 2023