

Fazal Shaik

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SUMMARY

Proactive and innovative B.Tech student in AI-ML, IoT, and Computer Vision at SRM University with strong interest in datacenter-scale AI and system-level performance optimization. Passionate about deploying deep learning systems on edge devices like Jetson Nano, analyzing performance bottlenecks, and working on high-impact projects involving CNNs, YOLO, and Transformers. Experienced in PyTorch, TensorFlow, and profiling tools like `nvidia-smi`. Eager to contribute to NVIDIA's mission in next-generation AI-driven systems by blending software, hardware, and data analysis.

PATENTS & PUBLICATIONS

- **Patent (ID: 202441077282):** A System and a Method for Automated Attendance Registration in Edge Devices. Uses CV and IoT with facial recognition and clustering algorithms.
- **Patent (ID: 202441067500):** A System for Smart Indoor Localization and the Method Thereof. Combines CV and IoT for indoor navigation using advanced localization.

PROJECTS (ML, IoT & COMPUTER VISION)

Attendance Autocapture using CNN on Jetson Nano

- Deployed CNN-based attendance system on Jetson Nano and Raspberry Pi, integrating with real-time camera feeds.
- Achieved high facial recognition accuracy with k-means clustering and real-time inference.
- Used Docker containers and performance logging via `nvidia-smi` and `perf` to optimize compute utilization.
- Integrated system with cloud logging dashboard to monitor inference performance metrics.

Traffic Detection and Management using YOLO Algorithms

- Developed real-time traffic optimization system using YOLO + IoT achieving 91% accuracy.
- Conducted profiling of YOLOv5 inference on edge devices and optimized I/O and latency.
- Leveraged MQTT protocol for sensor communication and remote updates.

Deployed Website "Anyhomework.co"

- Full-stack development in C# (.NET) with MSSQL; handled 1.25M events and 221K+ views.
- Implemented RESTful APIs and integrated real-time user activity tracking.

Deployed Website "Hackkaro.com"

- Cybersecurity education platform built using C# (.NET) and MySQL.
- Designed backend architecture to support modular content delivery and user analytics.

Deployed Website "thesulthan.com"

- Social service portal for pandemic relief; supported retail shops with tools for customer engagement.
- Built scalable backend with custom admin dashboard for shopkeepers.

EXPERIENCE / INTERNSHIP

Artificial Intelligence Tutor, ULEARN

Sep 2024 - Nov 2024

- Delivered comprehensive AI curriculum from basics to DL, with interactive projects.
- Assessed students' grasp through ML-focused practical tasks and quizzes.
- Mentored over 40 students, improving course completion rate by 30%.

EDUCATION

SRM University AP

8.37 CGPA

Bachelor of Technology in Computer Science and Engineering

RESEARCH

CNN-based Attendance with IoT Integration

- Real-time ML model deployment on Raspberry Pi/Jetson Nano.
- Achieved sub-second latency in inference using optimized Python code.

YOLO for Traffic Optimization

- Deployed vehicle classification models with IoT and real-time sensors.
- Reduced traffic signal delay by 25% in simulation using ML-driven predictions.

Roclear’s 983 AI-Enabled Smart Vehicle Cleaner

- Custom vision system classifying ”dirty” vs ”clean” cars; auto-triggers cleaning protocol.
- Developed dataset of 2,000+ annotated vehicle images.

SKILLS

- **Languages:** Python, C++, C#, Java, SQL, HTML, CSS, JS, TypeScript
- **AI/ML:** PyTorch, TensorFlow, HuggingFace Transformers, OpenCV, YOLO, CNNs, Data Augmentation
- **Systems:** Linux (Ubuntu), Docker, SLURM (basic), nvidia-smi, perf, Bash scripting
- **IoT Hardware:** Jetson Nano, Raspberry Pi, Arduino, MQTT, Sensor Networks
- **Web Stack:** React.js, Next.js, .NET, MSSQL, MySQL, MongoDB, REST APIs
- **Cloud Infra:** AWS EC2/S3 (basic), Git, CI/CD, Agile workflows
- **Soft Skills:** Critical thinking, ownership mindset, collaboration, technical communication

ACHIEVEMENTS

- 2 Published Patents in CV + IoT systems (IDs: 202441077282, 202441067500)
- Gold Medals: Traffic Management ML Project (Apr 2024), SyncHome-AI-Bot (Apr 2024)
- Finalist at SRM Tech Expo 2024 for smart embedded AI projects
- 2nd Place, National Hackathon on Smart Cities 2023