

ATHUL SURESH

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Machine Learning Engineer with 5+ years of experience in designing and deploying ML models for security monitoring and computer vision applications. Proficient in clustering, classification, time series analysis, transformers, and AI agents. Skilled in web scraping and exploratory data analysis to drive data-driven insights and intelligent systems

WORK EXPERIENCE

Technology Officer | Zillion Tech | Sharjah, UAE | Dec 2024 - Present

- Led the design and deployment of a video analytics framework using NVIDIA Deepstream and Kubernetes, enabling real-time insights for retail outlets and driving ROI improvements.
- Architected microservices to support modular ML pipelines and improve system maintainability.
- Developed AI agents to automatically generate business reports from customer behavior insights derived from video analytics using natural language queries.
- Built a Conversational RAG-based document retrieval system with source citations and integrated question answering capabilities.

Machine Learning Engineer | International Virtual Assistant | Trivandrum, India | July 2022 - Present

- Built a real-time face recognition module for security monitoring in high footfall areas.
- Developed offline virtual sensors for gas turbine engines processing 54,000 records/sec to enable real-time performance monitoring and optimization.
- Engineered ETL pipelines and one-click solutions for sensor validation, anomaly detection, and trend deviation alerts using high-fidelity sensor data.
- Processed and synchronized large-scale sensor data to support R&D in advanced engine technologies.

Junior Machine Learning Engineer | Katomaran Technologies | Coimbatore, India | June 2020 – July 2022

- Designed and deployed a knowledge graph-driven Intent based chatbot using TypeDB, capable of resolving 90% of user queries autonomously.
- Diagnosed object detection models and improved inference speed by 1.3X without major accuracy loss, enabling deployment on edge and low-resource devices.
- Trained an atomic action recognition model using actor conditioned attention map technique.
- Managed end-to-end ML pipelines—from data collection and model training to deployment, testing, and reporting.

Machine Learning Intern | Katomaran Technologies | Coimbatore, India | Dec 2019 – May 2020

- Developed computer vision algorithms for security monitoring and safety surveillance systems.
- Collaborated with ML experts on model development and tool optimization.
- Conducted statistical analysis of test results and performed literature reviews to propose solution strategies.

EDUCATION

Bachelor of Technology in Computer Science and Engineering

APJ Abdul Kalam Technological University, Kerala, India

Graduated: Aug 2019 | GPA: 7.39 / 10

- Relevant coursework: Music Genre recognition using their Mel-frequency cepstral coefficients
- Seminar: Effective Machine Learning with Cloud TPU
- Organized marketing and advertising campaign, increasing membership during Internshala Student Partner, Campus Ambassador Program.

CERTIFICATIONS & COURSES

- **Agentic AI Pioneer Program** | Analytics Vidhya | ongoing
- **Python Data Structures & Algorithms + LEETCODE Exercises** | Udemy | ongoing
- **System Design Interview Guide for Software Architecture** | Udemy | 2025
- **IBM Data Science Professional Certificate** | Coursera | 2020

- **Beginning Application Development with TensorFlow and Keras** | Udemy | 2018
 - **TensorFlow Application Development Using TensorFlow 2-in-1** | Udemy | 2018
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KEY SKILLS

- **Programming languages** - Python, Unix
- **Machine Learning** - Exploratory Data Analysis, Feature Engineering, Neural Networks, Time Series Forecasting, Regression, Classification, Clustering, Model Deployment
- **Neural Network architectures** - CNN, RNN, LSTM, YOLO, GAN, Transformers
- **Data Analysis Tools** - Pandas, NumPy, SciPy, Sklearn, Matplotlib, Seaborn, Plotly
- **Frameworks** - TensorFlow, Pytorch, OpenCV, Deepstream, Langchain, Autogen, RASA, Flask, Django,
- **DevOps** – Git, Docker, Kubernetes, CI/CD
- **Database** – Mysql, TypeDB, MongoDB, chromaDB, Milvus
- **Soft Skills** – Problem Solving, Critical Thinking, Strategic Planning, Creative thinking, Analytical thinking, Team working