MAHESWARAN S

Machine Learning Engineer & AI Practitioner

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Machine Learning and Artificial Intelligence practitioner with strong experience building end-to-end, production-oriented ML systems in computer vision, time-series analysis, and security domains. Skilled in designing scalable pipelines, applying advanced modeling (deep learning, anomaly detection, ensemble methods), and translating research into high-impact prototypes. Demonstrated success in competitive hackathons with focus on reliability, performance, and real-world deployment.

PROFESSIONAL EXPERIENCE

Machine Learning Engineer Intern – LOC Tech, Chennai Nov–Dec 2025

- Contributed to predictive analytics by preprocessing and analyzing existing customer datasets
- Worked with Python, TensorFlow and related ML frameworks for feature engineering, model development and evaluation
- Collaborated with team to deploy models and optimize data processing pipelines for real-time analytics

KEY PROJECTS

Multimodal Emotion Recognition (Audio-Visual) – Lead Developer

- Engineered privacy-aware multimodal emotion recognition system combining CNN-based facial analysis and audio emotion embeddings
- Designed feature-fusion pipeline improving robustness over unimodal models for reliable inference under explicit consent

Predictive Maintenance for EV Batteries – Lead Developer

- Engineered anomaly detection system using Python & CALCE dataset with Isolation Forest/Autoencoder model
- Achieved 94% prediction accuracy reducing thermal runaway risks & downtime
- Built full time-series ML pipeline for real-time BMS integration

Mint Money – AI Market Intelligence Platform – Lead Developer

- Built real-time financial analysis system for US equities using Python, FastAPI & YFinance
- Implemented ML signal generation with confidence scoring, feature engineering & scalable backend (WebSockets + LightGBM)

RESEARCH CONTRIBUTIONS AND PUBLICATIONS

Co-Author – IEEE & Springer Conferences 2024–Present

"A Novel Deep Learning Approach for Accurate Obesity Detection by Leveraging Synthetic Image Data"

Status: Submitted to multiple IEEE & Springer conferences; recently submitted to SRM AP University

TECHNICAL PROFICIENCIES AND PROFESSIONAL SKILLS

- **Programming & ML/DL:** Python, TensorFlow, PyTorch, OpenCV, Scikit-Learn, LangGraph, DSA, NLP, YFinance
- **Frameworks & Tools:** FastAPI, Railway, Render, Docker, Git, Postman, Supabase, LightGBM, Autoencoders, RAGs
- **Visualization & Dashboards:** Matplotlib, Seaborn, Plotly, Streamlit, Power BI, Tableau
- **Languages:** English , Tamil, Hindi

EDUCATIONAL QUALIFICATIONS

Integrated Master of Technology – VIT Bhopal University 2022–2027 (expected)

Major: Artificial Intelligence - CGPA 8.60

Higher Secondary (12th) – Everwin Matriculation Higher Secondary School 2021 Score: 93%

Secondary (10th) – Wesley's Matriculation Higher Secondary School 2019 Score: 87%

CERTIFICATIONS AND CONTRIBUTIONS

- **Certifications:**
  - Oracle Cloud Infrastructure Certified AI Foundations Associate (Jan 2026)
  - Tata GenAI Powered Data Analytics Job Simulation (Jan 2026)
  - Applied Machine Learning in Python (Coursera – Univ. Michigan, Dec 2023)
  - Goldman Sachs Software Engineering Job Simulation (Sep 2023)
  - J.P. Morgan Software Engineering Job Simulation (Sep 2023)
  - Cloud Computing (NPTEL)
- **Contributions and Achievements:**
  - NASSCOM Hackathon Finalist – Developed AirCheck: AI-powered airline customer care agent (booking, status, cancellation)
  - Active participant in national & global AI/security hackathons: SEBI, Shell.ai, Global MCP, D3CODE 2025, VIT Bhopal – Johns Hopkins Health Hack 2025, SIH 2025, KDSH 2026
  - Currently participating in EY Techathon 6.0 (2nd phase ongoing) and ShikshaLokam Hackathon
  - Focus on research-driven, industry-oriented AI solutions, agentic architectures & scalable ML pipelines

LinkedIn | GitHub