LAKSHARA ANAND V V

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PROFESSIONAL SUMMARY

Computer Science Engineering student (AI/ML specialization) with hands-on experience building intelligent systems, computer vision pipelines, and full-stack web applications. Co-founder of a software development venture. Proven track record delivering production-grade AI projects — including two patent-filed innovations — spanning robotics, cybersecurity, and medical imaging. Proficient in Python, TensorFlow, PyTorch, React, and Node.js.

TECHNICAL SKILLS

Languages: Python, Java, C++
AI / ML: TensorFlow, PyTorch, Scikit-learn, OpenCV, Deep Learning, CNN, LSTM/GRU, Transformers, Semantic Segmentation, Time Series Forecasting
Web & APIs: React.js, Node.js, Express.js, Flask, REST APIs, Microservices
Databases: MySQL, SQLite, MongoDB
Cloud & DevOps: AWS (Foundations), Docker, Git, GitHub
Core CS: Data Structures & Algorithms, OOP, System Design, Software Engineering

EDUCATION

B.Tech — Computer Science & Engineering | SRMIST, Trichy *Aug 2024 – May 2028 (Expected)*

EXPERIENCE

AI Project Lead | AAAI Student Chapter — SRMIST *Mar 2026 – Present*

- Lead AI-driven development initiatives focused on ML experimentation and applied deep learning research.
- Coordinate cross-functional teams building deep learning models and intelligent data processing systems.
- Mentor students on model development workflows, project architecture, and best practices.

Co-Founder | Kuralara WebFlux — Tiruchirappalli, India *Jul 2025 – Present*

- Co-founded a software venture delivering scalable web applications and AI-driven digital platforms.
- Architected full-stack solutions using React, Node.js, and REST APIs across the full product lifecycle.
- Applied modular architecture and performance optimization to improve maintainability and scalability.

Machine Learning & AI Intern | AXCENTRA *Dec 2025 – Jan 2026*

- Implemented data preprocessing pipelines, model training workflows, and evaluation frameworks using Python ML libraries.
- Conducted experiments with ML models for predictive analytics, producing actionable performance benchmarks.

Data Science Intern | Prodigy InfoTech — Remote *Jun 2025 – Jul 2025*

- Applied Python-based ML and data analysis to real-world datasets including feature engineering and model experimentation.
- Built prototypes for data-driven analytical applications using Scikit-learn and Pandas.

Web Development Intern | Prodigy InfoTech — Remote *Jan 2025 – Feb 2025*

- Built responsive, accessible web interfaces using HTML, CSS, and JavaScript frameworks.
- Developed modular frontend components; improved code maintainability and load-time performance.

KEY PROJECTS

AI-Driven Vision-Guided Laser QR Encoding System | Patent Filed*AI · Computer Vision · Robotics*

- Built a contactless railway inspection system using transformer-based semantic segmentation to detect rust on fishplates.
- Designed algorithms analyzing rust severity and identifying clean-metal regions for automated laser encoding operations.
- Implemented a vision-guided control system (ESP32 pan-tilt laser turret) converting pixel coordinates to angular offsets.
- Enabled automated QR encoding on infrastructure for predictive maintenance tracking.

Stack: Python, OpenCV, Semantic Segmentation, ESP32, Embedded C

NovaShield AI — Autonomous Cybersecurity Framework | Patent Filed*AI · Cybersecurity · Cloud*

- Designed an AI-driven cybersecurity platform for real-time threat detection across enterprise and cloud environments.
- Built adaptive models to analyze system logs, network traffic, and user behavior for anomaly detection.
- Implemented automated response systems to isolate compromised resources and enforce Zero-Trust policies.
- Architected a self-healing security framework capable of mitigating zero-day attacks.

Stack: Python, AI Threat Detection, Zero Trust Architecture, Cloud Security, APIs

Tuberculosis Detection System | *Deep Learning · Medical Imaging*

- Fine-tuned MobileNetV2 on chest X-ray datasets achieving 94.2% classification accuracy for TB detection.
- Built a Flask web app with CRUD functionality for patient data management and real-time predictions.
- Integrated Grad-CAM visualization for explainable AI insights, enhancing clinical interpretability.

Stack: Python, TensorFlow, CNN, Flask, OpenCV

RESEARCH

Power Grid Inertia Prediction via Deep Learning | *Power Systems · Time Series*

- Developed LSTM, GRU, and BiLSTM-based forecasting framework to predict grid inertia under renewable energy integration.
- Demonstrated superior multi-step prediction performance with LSTM for proactive grid frequency stability monitoring.

System Inertia Estimation via Frequency Measurements | *Physics-Guided Modeling*

- Derived measurement-based inertia estimation from the swing equation without requiring training data.
- Implemented ROCOF extraction using Savitzky-Golay filtering for robust real-time frequency signal analysis.

LEADERSHIP & ACTIVITIES

- Social Media Coordinator — Entrepreneurship Development Cell, SRMIST (Aug 2025 – Present)
- Hardware Coordinator — Entrepreneurship Development Cell, SRMIST (Aug 2024 – Aug 2025)
- Campus Ambassador — E-Cell, IIT Bombay (Jul 2025 – Present)

CERTIFICATIONS

- Machine Learning & AI Internship — AXCENTRA (2026)
- Agentic AI Workshop — KAMALA AI Program
- AI No-Code Connect — Varnam'26 Tech Fest
- Supercharging CRM with AI — Varnam'26 Tech Fest

LANGUAGES

English · Tamil · Hindi