Hari Charan Lekkala

Hyderabad, Telangana, India

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Academic Qualifications

B.Tech. in Computer Science & Engineering   Expected Jun 2026
VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad   *CGPA: 9.18*
RELEVANT COURSEWORK: DSA, OOPS, OS, CN, DBMS, Compiler Design, Software Engineering, AIML, DevOps, Matrices & Calculus, ODE & Vector Calculus

Internships

Global Product and Technology Intern (SRE DevOps) | ADP Pvt. Ltd., Hyderabad   July 2025 – Oct 2025
  – Engineered an internal AI-powered WebEx chatbot for ADP's SRE teams, enabling engineers to perform observability tasks via natural-language queries.
  – Integrated Amazon Bedrock (Anthropic Claude 3.5 Sonnet), LangChain, and the WebEx SDK with a Fastapi backend to orchestrate reasoning workflows and trigger automated DevOps Read only operations.
  – Engineered a Splunk-based observability module with optimized SPL pipelines to trace Long Transactions (LTs), exceptions, and error bursts across **200+ microservices**.
  – Implemented secure Splunk integration using Bearer Tokens across both Splunk Production and testing environments, enabling high-volume, authenticated log retrieval.

Projects

ZOOP – Campus Canteen Ordering & Management System | *ReactJS, Node.js, Express, MongoDB*
  – Led a 4-person team to architect a **functional prototype** of a MERN platform for digital canteen ordering with real-time tracking.
  – Implemented secure JWT-based authentication and role-based access control for students, vendors, and administrators.
  – Designed optimized REST APIs and structured MongoDB schemas to ensure reliable performance simulation during peak loads.
  – Integrated Razorpay for secure online payments and QR-based pickup tokens, **demonstrating a workflow to eliminate** Long queues.

UnMix – Waste Segregation at Point of Collection | *PyTorch, OpenCV, Arduino*
  – Curated a **5,000-image dataset** across plastic, metal, organic, paper, and glass categories, enforcing a strict **80-10-10 train-validation-test split** to ensure generalization.
  – Engineered a **Heterogeneous Ensemble** using ResNet50, EfficientNet, and InceptionV3 with **Soft Voting**, achieving **91.2% classification accuracy**.
  – Integrated the vision model with an **Arduino-controlled hardware prototype** (L298N driver, conveyor belt, laser sensors) via serial communication for real-time physical sorting.
  – Built a robust inference pipeline using Roboflow for preprocessing and augmentations to handle varied lighting and orientations.

DocuMind – AI-Powered Study Assistant | *Streamlit, LangChain, RAG, Groq, Ollama, ChromaDB, MySQL*
  – Developed an AI-driven study assistant using LangChain RAG with Groq-accelerated Ollama LLMs for responsive contextual Q&A.
  – Implemented multi-format document ingestion (PDF, DOCX, TXT) with automatic summarization, concept extraction, and question generation.
  – Utilized Ollama embedding models and ChromaDB for efficient vector storage and improved semantic retrieval.
  – Created a secure Streamlit interface with Google OAuth authentication and MySQL-backed persistent chat history.

Research Experience

BSAVLNN: Basis-Scaling and Activation-Vectorized Linear Neural Network   Jan 2025 – Present
Guided by Dr. V. Baby (HOD), CSE Department

- Co-authored a paper (**Under Review at CVPR 2026**) proposing a deterministic, non-cryptographic privacy-preserving inference framework.
- Achieved **100% accuracy retention** on clinical datasets with **14.43 ms latency** and **O(n) linear memory growth**, significantly outperforming Feature Perturbation baselines.
- Designed a basis-scaled computation domain with Activation Vectorization, enabling secure ReLU operations without Homomorphic Encryption.

Technical Skills

Programming: C, C++, Java, JavaScript, Python

Web Development: React.js, Node.js, Express.js, Streamlit

Databases: MySQL, MongoDB, ChromaDB

Machine Learning / Deep Learning: NumPy, Pandas, Scikit-learn, PyTorch, OpenCV

LLM / AI Frameworks: LangChain

Cloud: AWS

DevOps: Git, GitHub, CI/CD (GitHub Actions, Jenkins), Docker, Kubernetes

Certifications

Responsible & Safe AI Systems, NPTEL   2025

Tableau for Data Visualization, Internshala   2023

Awards & Achievements

1st Prize – National Level Ideathon, VNRVJIET   Jun 2024
Awarded for developing *UnMix*, an **AI-IoT automated waste segregation prototype** (Ministry of HRD Initiative).

1st Prize – Campus Automation Hackathon, VNRVJIET   Dec 2023
Awarded for building *ZOOP*, a full-stack canteen automation system.

Runners-up – Freshers Cup Cricket Tournament, VNRVJIET   Dec 2022

Co-Curricular / Extracurricular Activities

- Logistics Team Member — TEDx VNRVJIET   May 2023
- Volunteered in donation drives, distributing books and clothes to underprivileged children.
- Conducted career-guidance workshops for rural government-school students.
- Vice-Captain — CSE Cricket Team; led the team to runners-up position in the Freshers Cup.