

Lakshmi Chakradhar Vijayarao

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PROFESSIONAL SUMMARY

Versatile Software Engineer and Machine Learning practitioner with proven experience delivering scalable, secure, and user-centric applications using Python, React.js, Node.js, and MySQL. Skilled at optimizing backend performance, implementing secure authentication, and developing AI-powered solutions with measurable outcomes. Strong collaborator with expertise in Agile workflows, continuous learning, and cloud technologies.

EDUCATION

The University of Texas at Dallas, Dallas, USA

Master of Science, Computer Science

May 2025

GPA 3.607/4.0

R.M.K Engineering College, Chennai, India

Bachelor of Engineering, Electronics and Communication Engineering

Mar 2023

GPA 9.04/10.0

TECHNICAL SKILLS

Programming Languages: Python, Java, JavaScript (ES6+), C++, C, C#

Frameworks & Libraries: React.js, Node.js, Express.js, Django, Scikit-learn, YOLO, OpenCV

Cloud & DevOps Concepts: AWS (familiar), Docker (familiar), Git, Linux, CI/CD fundamentals

Data & Big Data: PySpark, Hadoop, Databricks, Pandas, NumPy

Databases: MySQL, PostgreSQL, Oracle, SQL

Tools: Git, VS Code, Eclipse, REST APIs

Methodologies: Agile, Unit Testing, API Design, Cross-team Collaboration

EXPERIENCE

NSIC TECHNICAL SERVICES CENTRE Chennai, India

Apr 2023 – Jun 2023

Internship Project trainee

- Constructed a responsive e-commerce platform using **React.js**, **Node.js**, and **MySQL**, increasing user engagement by 20%.
- Implemented **OAuth2** and **JWT**-based authentication, reducing session errors by **25%** and enhancing login reliability.
- Facilitated Android full-stack training for 30+ students, achieving a **95%** pass rate and boosting job placement outcomes by 40%.

ZOHO CORPORATION PRIVATE LIMITED Chennai, India

Mar 2022 – Apr 2022

Summer Internship Project Associate

- Streamlined backend performance by refining API calls and optimizing **SQL** queries in a video conferencing application.
- Integrated **WebRTC** for low-latency communication, enhancing real-time interaction for 1,000+ concurrent users.
- Partnered with QA and product teams in Agile sprints to release reliable, scalable features.

PROJECTS

AI-Powered Smart Detection of Crops and Weeds for Sustainable Agriculture(Python, YOLO, Object Detection)

- Built a **YOLO**-based object detection model with **90%** accuracy for classifying crop and weed species, reducing herbicide usage by **15%**.
- Processed **10,000+** agricultural images and established scalable inference pipelines for real-time analysis.

Search Engine for Movie Summaries (Python, PySpark, Databricks, Scala, Hadoop)

- Developed a distributed search engine leveraging **TF-IDF** and **cosine similarity** to improve query relevance by **10%**.
- Deployed on **Hadoop** and **Databricks** to manage 100,000+ records efficiently.

Facial Recognition Attendance System (Python, OpenCV, Machine Learning)

- Designed a facial recognition system with **99%** accuracy for 200+ users, reducing attendance tracking errors by **30%**.
- Linked to cloud storage for real-time data syncing and secure logging.

Scikit-Learn and Cross Validation for Mushroom Classification(Python, Scikit-Learn, DT Classifier, RF Classifier, KNN Classifier)

- Trained and evaluated ensemble models (Decision Tree, Random Forest, KNN), achieving **95%** accuracy using cross-validation.
- Enhanced reliability through preprocessing techniques to address **20%** missing data.

Custom Process Scheduler Development (Linux Kernel, xv6, C, C++)

- Programmed custom priority and lottery schedulers, reducing context switching overhead by **18%**.
- Validated algorithm fairness and efficiency with synthetic workload simulations.

CERTIFICATIONS

- IBM DevOps and Software Engineering Professional Certificate**
- Microsoft Full-Stack Developer Professional Certificate**
- Meta Back-End Developer Professional Certificate**
- AWS Certified CLOUD PRACTITIONER- AWS Academy**

PUBLICATION

TEXT DETECTION BASED ON DEEP LEARNING

- Built a handwriting recognition model using MNIST-style data, achieving 98.6% training precision and 96.9% test accuracy.
- Presented findings at IEEE's International Conference on Intelligent Data Communication and Analytics. [Link](#)

ADDITIONAL INFORMATION

- Proficient with **Git**, **RESTful API design**, and **Linux-based development environments**.
- Experienced in **Agile collaboration**, sprint execution, and **cross-functional teamwork**.
- Strong foundation in **Java programming**, including object-oriented design and multithreading concepts.
- Practical knowledge of **machine learning algorithms**, data preprocessing, and model evaluation techniques.
- Comfortable working with **ML libraries** such as **Scikit-learn** and frameworks like **YOLO** for computer vision applications.