

Manoj Tummala

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EDUCATION

University of Southern California

Masters of Science in Computer Science

Aug 2023 – Aug 2025

Course Work: Machine Learning in Data Science, Big Data Analytics, Database Systems, Cloud Computing

Sathyabama University

Bachelor of Engineering in Computer Science

Aug 2019 – May 2023

Published a research paper “LiDAR Sensor For Self Driving Cars” in **ICCES 2023**.

TECHNICAL SKILLS

Programming: Python, C/C++, JavaScript, TypeScript, SQL (Postgres, MySQL), Java, PHP, C#, Scala

Data Engineering: ETL Pipelines, Apache Spark, Apache airflow, Hadoop, Snowflake, BigQuery, TCP/IP, DNS, Load Balancing

Data Processing & Storage: Kafka, Delta Lake, NoSQL(MongoDB, DynamoDB)

Cloud Platforms: AWS(S3, Lambda, EMR), GCP (BigQuery, Cloud Functions), CI/CD (Jenkins, TravisCI)

Distributed Systems: Microservices, Kafka, gRPC **Tools & Frameworks:** Docker, Kubernetes, Jenkins, Git, Flask, FastAPI

Libraries: Pandas, NumPy, PySpark, TensorFlow, Matplotlib **Operating Systems:** Linux, UNIX-based Systems

EXPERIENCE

Full-Stack Developer

ReviewsVerse

May 2024 - Sep 2024

- Designed a robust web platform leveraging **React JS**, **Node.js** and **MongoDB**, enabling user-generated reviews with posting, rating, and commenting features leading to a significant rise in daily active users during beta testing.
- Composed and optimized **ETL pipelines** for processing user-generated reviews, reducing data latency by 30%.
- Created data ingestion pipelines using **Apache Kafka** and **S3**; handling 1,000+ active users with <200ms response latency.
- Implemented log tracing and data quality checks using Great Expectations, reducing data pipeline failure rate by 30%.

Data Engineer & React JS Developer

SchoolTalkz

Feb 2023 - Jun 2023

- Launched a full-stack communication hub using **ReactJS**, which streamlined interactions among 15+ educational institutions, enhancing collaboration and reducing communication delays across schools.
- Built automated **Airflow DAGs** with retry mechanisms and alerting for batch ETL processes to ensure operational resilience.
- Optimized **SQL** queries using **PostgreSQL** indexing and partitioning techniques, reducing report generation time by 40%.

React JS & System Architecture Developer

Zee Media

May 2022 - Sep 2022

- Engineered a fully responsive nationwide release website from the ground up using **React JS**, **AngularJS**, **Node JS**, and **MongoDB**; ensured compatibility across 15+ device types, enhancing user engagement by 25%.
- Developed a real-time data indexing system using **Elasticsearch** and **MongoDB**, enhancing search response time.
- Designed a data lake architecture using **AWS S3** and **Delta Lake**, improving data accessibility and performance. Proposed a real-time notification system using WebSockets and Node.js, enabling consistent cross-service updates with millisecond latency.
- Automated **CI/CD pipelines** for data pipeline deployment, reducing manual errors by 20%.

PROJECTS

Lidar Sensor For Self Driving Car

- Engineered a fully functional prototype of a self-driving car from concept to completion, processed LiDAR sensor data in real-time using Python and OpenCV; simulated environmental mapping with object detection accuracy of 40%.

Clipy

- Developed a Universal Clipboard (cross-device clipboard sync) using **Firestore Cloud Messaging** and Android services; ensured secure text/image transmission over the network; received positive reviews during beta testing for enhanced convenience.

Stock Search

- Developed an intuitive user interface for the stock management app that led to a rise in customer satisfaction scores based on user feedback, highlighting a significant improvement in user experience.
- Made use of blockchain technology for seamless buy/sell transactions within the app, ensuring real-time market rate updates for users.

Attendance using Face Recognition

- Launched a facial recognition-based attendance system using **OpenCV** and **AWS Lambda**. Automated student identification and attendance log. Collaborating with the university database; reduced attendance logging errors by 40%.