

MADHUMITHA SESHIAIAH

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EDUCATION

University of Illinois at Chicago - Master of Science, Computer Science **Aug 2025 - May 2027**
Courses: Computer Algorithms & Data Structures, Applied AI & Machine Learning, Distributed Cloud Computing.
Anna University - Bachelors in Computer Science & Data Science (Hons) **June 2021 - April 2025**
Courses: Object Oriented Programming, Computer Networks, Cryptography and Network Security, UI/UX Design.

TECHNICAL SKILLS

Languages & Frameworks : Java, Python, JavaScript, MySQL, React, Angular, Node, Pandas, TensorFlow, Numpy
Cloud and AI: Google Cloud, AWS (EC2, Lambda, SES), Hadoop, HDFS, Flask, MongoDB, GenAI, CNN, LLM,

WORK EXPERIENCES

Software Developer Intern **Idexcel Pvt Ltd** **May 2024 - Aug 2024**

- Designed a real-time distributed notification system that learns user behavior patterns and adapts context variation
- Built a scalable log ingestion pipeline on AWS EMR with custom MapReduce jobs for intelligent partitioning. Integrated Kafka Spark for parallel log analysis processing over 10M+ records daily, storing them in Hadoop HDFS
- Developed AWS Lambda functions for behavior anomaly detection, enabling sub-second decisions and reducing query latency by ~70%, while notifying via personalized alerts using Amazon SES and APNs, boosted engagement by 35%

Software Engineering Intern **Vision Isoftech Pvt Ltd** **May 2023 - Aug 2023**

- Developed a recommendation engine using Python, MySQL, and FastAPI, delivering 150+ product suggestions/min and visualizing usage trends with AngularJS and Chart.js
- Engineered a custom image similarity algorithm with TensorFlow and Pandas, extracting grayscale embeddings for visual product matching, resulting in a 30% boost in user engagement

E2E E-Commerce website **Software Developer Consultant** **Jan 2023 - April 2023**

- Built a responsive, user-friendly web application using React and Node.js, automating manual order processing to boost operational efficiency by 73%, and improving scalability for high-volume SMBs
- Integrated MongoDB for order lifecycle management, implemented a secure Indian payment gateway via API-authenticated REST endpoints for seamless checkout, and .env-based configuration to protect sensitive information

TECHNICAL PROJECTS

VoiceBrief: Doc-to-Audio iOS App [Swift, Xcode, Google Cloud, LLMs LangChain, iCloud/Box API]

- Developed an iOS app in Swift using Xcode that converts documents from Files, Box, and iCloud into podcast-style audio using a lightweight LLM API through LangChain
- Uploaded and retrieved documents/audio using Google Cloud Storage, with Cloud Pub/Sub to trigger LLM API calls. Implemented offline audio synthesis and background processing with AVFoundation and BGProcessingTask

Multimodel Framework for Lip Reading and Translation [Python, OpenCV, 3D CNNs, TensorFlow]

- Developed a visual recognition model using 3D CNNs and BiLSTM architectures to process audio-less videos, isolating lip movements to extract text with over 88% accuracy
- Processed video frames in batches, targeting the lip region using OpenCV, and extracted spatial-temporal feature
- Normalized text output using BERT token classification, and integrated real-time multilingual translation using MarianM

Edge-Assisted Suspicious Activity Detection system [Java, ST-GCN, FastAPI]

- Developed a real-time video surveillance web app to stream data through a DAG pipeline of ST-GCN for suspicious activity recognition and OpenPose for human pose detection
- Performed custom data labeling for human activity datasets and optimized multi-camera person tracking using DeepSORT re-identification, improving accuracy by 28%

AWARDS, CERTIFICATIONS AND PUBLICATIONS

- Published research papers in Multi-Format EXIF Metadata Extraction [\[Link\]](#), COVID-19 detection by CT-Scan Images [\[Link\]](#)
- Oracle Certified Associate 2023, Gold League at Google Cloud, Winner of Internal Smart Indian Hackathon 2024, Student Secretary of the University Computer Science Department, Volunteer at Medical NGO.