

Mahesh Mudalagiri

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📍 Bengaluru, India

PROFILE

Highly motivated Computer Science Engineer with expertise in developing end-to-end machine learning pipelines and NLP systems. Proficient in Python, TensorFlow, and LLM integration, with a focus on building enterprise-ready GenAI and Computer Vision solutions.

EDUCATION

JSS Academy Of Technical Education, Bengaluru

Dec 2022 - June 2026

GPA: 7.5

B.E. in Computer Science and Engineering

ASC Independent PU College, Bengaluru

Aug 2020 - Aug 2022

Percentage: 89%

12th Standard

VLS International School, Bengaluru

April 2012 - April 2020

Percentage: 86%

10th Standard

TECHNICAL SKILLS

Languages: Python, Java, SQL, C, HTML/CSS

AI & ML: TensorFlow, Scikit-learn, OpenCV, XGBoost, RAG Pipelines, LangChain

Data & Tools: Power BI, Pandas, NumPy, Docker, Flask, Git, Linux, Pinecone

PROJECTS

Legal Document Simplifier (GenAI)

NLP, LangChain, Pinecone, Docker

- Developed a RAG-based application using **LangChain** to simplify legal jargon, achieving a **40% reduction in reading time**.
- Integrated **OCR** to extract text from scanned PDFs and utilized **Pinecone** for high-speed vector retrieval with **sub-100ms latency**.
- Containerized the solution using **Docker** to ensure consistent deployment and managed context windows for documents **over 50+ pages**.

Traffic Accident Analysis (Computer Vision)

YOLOv8, Faster R-CNN, XGBoost

- Engineered a real-time system achieving **97% overall accuracy** in predicting accident risks via vehicle proximity detection.
- Optimized detection with **IoU-based filtering**, resulting in a **40% reduction in false-positives** and **98% precision**.
- Built an **XGBoost classifier** for severity prediction with a **95% TAR** and a **FAR < 1%** on real-world datasets.
- Accelerated inference to process high-density video streams at **30+ FPS** for instantaneous risk alerting.

IoT Security and Face Recognition

OpenCV, DeepFace, Flask, SQLite

- Built a full-stack security system using **DeepFace**, achieving **97% overall accuracy** and **95% True Acceptance Rate (TAR)**.
- Optimized facial embedding pipelines, resulting in a **40% false-positive reduction** and **98% alert precision**.
- Integrated **Telegram API** for instant photo-alerts with a **FAR < 1%** using a modular **SQLite** backend for logging.

CREATIVE EXPERIENCE

Lead, Video Production

College Fest

- Directed **10+ promotional videos**, managing a team to deliver assets **15% ahead of schedule** for a major college festival.
- Utilized **DaVinci Resolve** and **Adobe After Effects** for professional motion graphics and post-production segments.