

Aravind Gudikandula

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EDUCATION

- **San Jose State University** San Jose, CA
Master of Science, Software Engineering Dec 2025
- **Malla Reddy College of Engineering and Technology** Hyderabad, India
Bachelor of Technology, Information Technology Jun 2023

SKILLS SUMMARY

- **Languages & Frameworks:** Python, Java, C++, C, Ruby, JavaScript, TypeScript, React, Angular, Node.js, Express, Flask, Django, Rails, HTML, CSS, SQL
- **AI, GenAI & Vision:** PyTorch, TensorFlow, Gemini API, YOLOv8, Stable Diffusion, RAG, LangChain, OpenCV, LLMs, Scikit-learn
- **Cloud, Data & DevOps:** AWS, GCP (Cloud Run/Build), Azure, Docker, K8s, Kafka, Flink, MongoDB, PostgreSQL, Redis, Oracle, Linux, CI/CD, REST APIs, Selenium, Git
- **Certifications:** AWS Certified Cloud Practitioner, Google IT Automation with Python
- **Soft Skills & Tools:** Agile/SDLC, JIRA, Confluence, Product Management, Stakeholder Communication, Problem Solving

EXPERIENCE

- **Hitachi Vantara** Remote
AWS Intern Mar 2023 - Jul 2023
 - Developed innovative solutions using AWS services in collaboration with senior engineers, contributing to a 20% reduction in project timelines for client deliverables.
 - Redesigned AWS training curriculum based on team feedback, ensuring alignment with current industry standards; implementation led to a notable decrease in service-related incidents by 20%.
 - Conducted data analytics on cloud usage patterns, providing insights that led to a 15% improvement in resource allocation and cost savings for customers.
 - Facilitated in development of training materials on AWS services for internal teams, leading to a 40% decrease in onboarding time for new employees.

PROJECTS

- **Building Computer Vision Framework for Smart Vehicles** Jan 2025 - Dec 2025
Skills: Python, PyTorch, YOLOv8, Stable Diffusion, CLIP, FAISS, CUDA
 - Architected a production-ready computer vision framework integrating Detection, Search, and Generative Insertion modules for AI-powered traffic scene modeling.
 - Exceeded performance targets achieving a PSNR of 32.44 dB (29% above target) and SSIM of 0.9226 (8.5% above target).
 - Optimized ML pipeline implementing batch processing and FP16 mixed precision, achieving a 12-24x speedup (reduced processing from 6 hours to 15 mins).
 - Engineered hybrid detection system combining YOLOv8m with CLIP embeddings and FAISS indexing for semantic object search at 22 FPS.
- **Resolve AI – AI-Powered Visual Repair Assistant** Dec 2025
Skills: React 19, TypeScript, Express.js, Gemini 2.5 Flash, Supabase, Google Cloud Run, Docker
 - Developed a full-stack AI diagnostic application using React 19, TypeScript, and Express.js, integrating Google Gemini 2.5 Flash for multimodal image/video analysis.
 - Engineered a safety-first AI prompt system that detects hazardous conditions and generates skill-adaptive repair instructions with 90%+ structured response reliability.
 - Implemented real-time media capture using WebRTC and MediaRecorder APIs, supporting both photo and video input for comprehensive diagnostics.
 - Deployed containerized application to Google Cloud Run using multi-stage Docker builds, reducing image size and enabling auto-scaling.
 - Integrated Supabase PostgreSQL backend for persistent scan history with device-based user session.
- **Medical Domain RAG System** May 2024
Skills: BioMistral, Qdrant, LangChain, FastAPI, Llama.cpp, PubMedBERT
 - Designed an open-source RAG system leveraging BioMistral (7B) and PubMedBERT for highly relevant medical embeddings.
 - Engineered a private, cost-effective solution by deploying LLM functionalities locally via Llama.cpp, ensuring data privacy.
 - Improved sustainability by utilizing optimized domain-specific models, reducing computational overhead compared to general-purpose models.
- **Vehicle Insurance Damage Detection** May 2023
Skills: TensorFlow, Keras, CNN, OpenCV, Computer Vision
 - Implemented an image classification model using CNNs & Keras to categorize vehicle damage with 88% accuracy.
 - Attained a precision rate of 90% for damaged image classification, creating a novel dataset for vision-based detection.