

# Devi Eswar Kumar Damerla

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## PROFESSIONAL SUMMARY

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Full-stack Software and AI Engineer with 5+ years of experience delivering secure, scalable systems across web, cloud, and machine-learning environments. Proven success evolving from Java / Spring Boot and Angular development to architecting Retrieval-Augmented Generation (RAG) and Large Language Model (LLM) platforms using FastAPI, Weaviate, and AWS SageMaker. Experienced in transformer fine-tuning (LoRA / QLoRA), vector-database design, and multimodal pipelines that fuse audio, video, and text for real-time evidence analysis. Strong foundation in microservices, containerization (Docker, ECS Fargate), and CI/CD (Jenkins, GitHub Actions) with a focus on model governance, compliance (CJIS), and measurable performance gains. Passionate about applying generative-AI and MLOps best practices to build intelligent, reliable software that drives business and investigative insight.

## EXPERIENCE

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### AI Engineer

Nov 2024 – Present

*AI for ALL LLC (AI OWL)*

*Columbus, OH, United States*

- Lead engineer for [Flash AI](#), a CJIS-compliant evidence intelligence platform enabling secure multimedia (video, audio, document) analysis for law-enforcement and investigative use cases. Designed scalable Retrieval-Augmented Generation (RAG) and multi-agent reasoning systems powered by Large Language Models (LLMs) such as Claude 3 and Legal-BERT.
- Developed transformer fine-tuning pipelines (LoRA / QLoRA) and parameter-efficient adaptation for legal and investigative domains, improving semantic retrieval precision and reducing model inference cost by 40%.
- Integrated Weaviate vector database with AWS SageMaker and FastAPI microservices to deliver sub-100 ms hybrid search, metadata-driven filtering, and user-isolated access control across large document collections.
- Built asynchronous multimodal ingestion pipelines using WhisperX, OpenCV, and FFmpeg for audio–video transcription and scene understanding, reducing processing time by 60% and enabling Vision-Language Model (VLM) capabilities.
- Implemented MLOps and continuous model evaluation pipelines with Docker, ECS Fargate, and SageMaker, establishing versioning, model governance, and audit compliance for production workloads.
- Mentored engineers on RAG architecture, LLM prompt optimization, and vector-database schema design; contributed to AI roadmap and strategic product integration initiatives for Flash AI and educational LLM platforms.

### Software Developer

May 2025 – Oct 2025

*MediTechSafe Inc*

*West Chester, OH, United States*

- Developed a secure product development platform with interactive system architecture modeling using Cytoscape.js, featuring drag-and-drop component placement, real-time network visualization, and SysML integration for component-level assessments, attack scenario simulation, and incident response planning built with Angular, Go, and PostgreSQL.
- Built a standardized risk management platform applying Go, AI/ML, and full-stack frameworks (Node.js, React, Python) with interactive Cytoscape network diagrams, real-time risk scoring visualization, and dynamic attack scenario path highlighting to enable real-time monitoring of cyber-physical systems and secure cloud deployments for IoT data analytics.

### Software Engineer

Aug 2021 – Jul 2023

*Airbus Group*

*Bengaluru, KA, India*

- Improved Aircraft 2D/3D CAD Drawing model loading times by 75% using a microservices-based iPaaS application built with NestJs and Angular, leveraging AWS load balancing and S3 for optimization.
- Developed a MEAN stack application to reduce reliance on costly CATIA licenses, cutting expenses by 60%, and utilized WebSockets for efficient model loading.
- Implemented SSO via OAuth and built comprehensive API documentation using Swagger. Contributed to Agile/Scrum and SAFe methodologies, involved in all development phases, and managed version control with Git.
- Automated design quality checks, refactored LAMP applications, and optimized SQL queries under 60 seconds for faster data processing, leading to cost savings.
- Built CI/CD pipelines with Jenkins agent in an AWS ECS Docker container, integrated SonarQube for code quality checks, and facilitated smooth data migrations from MariaDB to MySQL for deployment efficiency.

### Assistant Software Engineer

Aug 2019 – Jun 2021

*MCR Web Solutions*

*Bhimavaram, Andhra Pradesh, India*

- Achieved 83% image enhancement with a Java Full Stack (Spring Boot, Angular) CNN block for denoising, deblurring, and enhancing low-light images. Employed AWS Lambda and Docker for efficient processing.

- Designed and implemented REST APIs and established CI/CD pipelines with Jenkins for streamlined workflows. Utilized a microservices architecture for scalability.

### Machine Learning Engineer Intern

May 2019 – Jul 2019

*TheSmartBridge Private Limited*

*Hyderabad, India*

- Developed a 95% accurate machine learning model for chronic kidney disease diagnosis using Python, employing Naive Bayes, decision trees, and random forest to enhance model precision. Successfully integrated the model into a user-friendly Django web application.

## PROJECTS

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### Context-Driven Image Narration | *React, Node.js, Python, TensorFlow, MongoDB, AWS*

Sep 2023 – Feb 2024

- Led the development of a MERN stack application integrated with a deep learning model, achieving 79.7% accuracy in object recognition using TensorFlow and Transformers. Applied LLMs for context-based captioning and narration. Built a data pipeline for preprocessing large datasets and improved model performance using transfer learning with pre-trained models.

## TECHNICAL SKILLS

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**Languages:** Java, SQL (PostgreSQL/MySQL), Python, JavaScript/TypeScript, Go, C#

**Backend:** Spring Boot, REST APIs, JPA/Hibernate, Maven/Gradle

**Testing:** JUnit, Mockito, Postman, Integration/Contract Tests, Regression Suites

**Cloud/DevOps:** AWS (EC2, ECS, ECR, Lambda, S3, CloudWatch), Docker, Jenkins, GitHub Actions

**Data:** SQL design & optimization, indexing, query tuning, ETL basics

**Practices:** Monitoring/metrics, troubleshooting/debugging, code reviews, CI/CD, clean code

**Tools:** Git, JIRA, Confluence, SonarQube

## CERTIFICATIONS

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**AWS Certified Solutions Architect – Associate**

**Deep Learning Specialization — DeepLearning.AI**