Deon Levon Dmello

+91 9108072271   deondmello@gmail.com   linkedin.com/in/deon-dmello   deondmello.netlify.app   github.com/lekenzi

EXPERIENCE

AI Engineer   June 2024 – Present
Tardid Technologies

- **LiDAR–Camera Calibration:** Developed an automated tool for extrinsic calibration between LiDAR and camera sensors, improving spatial alignment accuracy and reducing manual calibration effort.
- **Real-time & Zero-Shot Action Recognition:** Developed and deployed action recognition systems using `X3D`, `Swin3D`, and `X-CLIP` for zero-shot inference, achieving **30 FPS** on live RTSP streams.
- **Vision-Language Models (VLMs):** Integrated CLIP and X-CLIP based pipelines for cross-modal image–text retrieval, zero-shot classification, and scene understanding.
- **Large Language Models (LLMs):** Deployed and optimized instruction-tuned LLMs for vision-assisted analytics and system control using `llama.cpp` and `SGL`, enabling low-latency inference on edge GPUs.
- **Face Recognition & Tracking:** Implemented a perimeter surveillance system using face embeddings stored in a **vector database** with **cosine similarity** for identity matching, integrated with **OC-SORT** for multi-person tracking.
- **Machine Learning & Deep Learning:** Fine-tuned CNN architectures for object classification, achieving a **10% improvement in F1-score** on real-world datasets.
- **Backend Development:** Designed and maintained `FastAPI`-based backend APIs for ML inference, model orchestration, and data pipelines.
- **Infrastructure & Version Control:** Administered a private Git (`Gitea`) instance, managing CI workflows and onboarding **10+ developers**.
- **Technical Stack:** C++, ROS2, OpenCV, GStreamer, PyTorch, FastAPI, `llama.cpp`, SGL, CLIP, X-CLIP, OC-SORT, Vector DBs, Git/Gitea.

SRE / Platform Engineer Intern   March 2024 – June 2024
Practo Technologies

- **Site Reliability Engineering (SRE):** Managed and resolved support tickets using JIRA, connecting to servers over SSH to troubleshoot and fix issues, ensuring system reliability and uptime.
- **Platform Team Contributions:** Implemented bug patches, enhanced platform stability, and developed a thorough understanding of in-house tools for sending SMS and email notifications.
- **Microservice Management:** Managed backend microservices using Docker, ensuring efficient deployment, scalability, and reliability of platform services.
- **Database Operations:** Performed scheduled database backups and managed production `Postgres` dumps to support data recovery and environment migrations.
- **Cloud Monitoring & Automation:** Developed a data pipeline to collect and analyze logs from AWS CloudWatch, enabling proactive identification of errors and deployment issues.
- **Technical Proficiency:** Gained hands-on experience with PagerDuty for incident management and developed a strong understanding of Docker for containerization and deployment processes.
- **Keywords:** SRE, Docker, Microservices, AWS CloudWatch, SQL Backups, JIRA, SSH, Incident Response, Platform Stability, PagerDuty, Monitoring.

EDUCATION

Indian Institute of Technology Madras   Chennai, TN
BS in Programming and Data Science   *September 2021 – Present*

- Completed Diploma in Data Science & Diploma in Programming

Reva University   Bengaluru, KA
B.Tech Computer Engineering (AI&ML)   *December 2020 - July 2024*

PROJECTS

QuizNexus | *Vue.js, Flask, SQLite, Bootstrap, JWT, Redis, MailHog, SMTP, Chart.js, LangChain, LangGraph* | `GitHub` July 2025

- Developed a full-stack quiz platform with a Flask REST API and modular Vue.js frontend for dynamic quiz creation, administration, and responsive UI design.
- Implemented secure role-based authentication using JWT, Redis caching for session optimization, and MailHog/SMTP for automated email verification and notifications.
- Integrated Chart.js for interactive performance analytics and optimized performance through lazy-loaded components and efficient SQL querying.
- Built an AI-powered student advisor using LangChain and LangGraph to analyze quiz history, detect weak areas, and generate personalized study recommendations.

ImageColorization | *Python, PyTorch, CNN, Machine Learning* | `GitHub`   April 2024
- Developed a CNN-based model using PyTorch to automatically colorize grayscale images, applying deep learning concepts such as UNet, GANs, convolutional layers, and loss optimization.
- Packaged the model into a Python module with clear documentation for accessibility, and currently extending it into a CLI tool for enhanced usability and portability.
- Leveraged NumPy and OpenCV for preprocessing and visualization, ensuring smooth integration into research and prototyping workflows.

Sync'em —*FastAPI, Vue.js, TailwindCSS, PostgreSQL, Celery, Redis, GenAI Agents, Jira*| `GitHub`   September 2025
- Built a full-stack workforce and project management platform in an **Agile Scrum** environment with a cross-functional **8-member team**, delivering role-based portals for Admins, HR, Project Managers, and Employees.
- Designed and implemented scalable REST APIs using `FastAPI` and PostgreSQL ORM models, enabling secure multi-role authentication, task workflows, and performance tracking.
- Developed responsive SPA interfaces using `Vue.js` and `TailwindCSS`, providing real-time project status, employee dashboards, and management analytics.
- Integrated asynchronous job pipelines with `Celery` and Redis for automated email notifications, scheduled reports, and background processing.
- Implemented Generative AI assistants (LLM + RAG) to automate HR queries, onboarding workflows, and requirement clarification, significantly reducing manual support effort.
- Used `Jira` for sprint planning, backlog grooming, story tracking, and release coordination, ensuring predictable delivery and traceability across iterations.
- Documented APIs using OpenAPI (Swagger) and wrote Pytest test suites for critical services, improving system reliability and maintainability.

TECHNICAL SKILLS

Languages: Python, C/C++, Bash, SQL, Go

Databases & Storage: PostgreSQL, Redis, Object Storage

Machine Learning & Deep Learning: scikit-learn, PyTorch, OpenCV, CLIP

GenAI & RAG Systems: LangChain, LangGraph, CrewAI, HuggingFace

LLM Inference & Optimization: llama.cpp, SGL, Quantized LLMs, RAG Pipelines

Vector Stores & Embeddings: FAISS, Qdrant

MLOps & Model Serving: FastAPI, REST APIs, Model Orchestration, CI/CD, Edge Deployment, GPU Inference

Cloud & Reliability: AWS (EC2, CloudWatch), PagerDuty, Jira, SSH, Linux Server Administration

Developer Tools: Docker, Git/Gitea, VS Code, Jupyter, Colab, Neovim

Operating Systems: Linux (Ubuntu), Windows

CERTIFICATIONS

- Advance Certificate in Programming and Application Development — IIT Madras `View Certificate`
- Foundational Level Certificate in Programming and Data Science — IIT Madras `View Certificate`
- TensorFlow Developer Certificate `View Certificate`
- The Web Developer Bootcamp (MERN) `View Certificate`
- HTML, CSS & JavaScript `View Certificate`
- Python for Data Science, AI & Development `View Certificate`
- Programming for Everybody (Python) `View Certificate`
- Design Thinking for Innovation `View Certificate`