

Deon Levon Dmello

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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 Action Recognition:** Developed and deployed action recognition models with Swin3D and S3D, achieving high accuracy on custom datasets while maintaining **30 FPS** on live video streams.
- **Face Recognition & Tracking:** Implemented a perimeter surveillance system using face embeddings stored in a **vector database** and **cosine similarity** for identity matching, integrated with **OC-SORT** for multi-person tracking.
- **Machine Learning & Deep Learning:** Fine-tuned CNN-based architectures for object classification, leading to a **10% improvement in F1 score** on real-world datasets.
- **Backend Development:** Designed and maintained **FastAPI**-based backend APIs for ML modules.
- **Infrastructure & Version Control:** Administered and maintained a private Git instance (Gitea), onboarding **10+** developers.
- **Technical Stack:** C++, ROS2, OpenCV, GStreamer, FastAPI, PyTorch, Git/Gitea, OC-SORT, Vector DBs.

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.

- Developed a full-stack parking management platform with real-time spot discovery, booking, and admin controls for lot and user management.
- Implemented secure role-based authentication with session management and granular permissions, ensuring data integrity and access control.
- Built interactive dashboards with Chart.js and optimized SQLAlchemy ORM queries, delivering responsive analytics on occupancy, revenue, and usage trends.

TECHNICAL SKILLS

Languages: Python, C/C++, Bash, SQL, Go (MySQL, SQLite, PostgreSQL)

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

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

Vector Stores & Embeddings: FAISS, Qdrant

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

Multimedia & Streaming: GStreamer, FFmpeg

Robotics & Computer Vision: ROS, LiDAR Processing, Sensor Fusion

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](#)