

Vandana Chidanand Mansur

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EDUCATION

University of California

Master of Science, Electrical and Computer Engineering (ML Track)

Coursework: Big Data & High-Performance Statistical Computing, Modeling & Optimization in Computer Engineering

Davis, California

09/2025 - 03/2027

Vellore Institute of Technology | GPA: 8.85/10

Bachelor of Technology, Electronics & Communication Engineering

Vellore, India

07/2018 - 05/2022

TECHNICAL SKILLS

Languages: Python, C++, Java, SQL

Technical Skills & Frameworks: ML, Tensorflow, Pytorch, LLM, RAG, AI Agents, Cloud, Hardware Inference, Research, User Experience

Tools: Git, GitHub, Docker, Kubernetes, AWS, Argo CD, Security-Prisma Compute, Postman, Splunk, DevSecOps, ServiceNow, Gen AI

WORK EXPERIENCE

Optum, UnitedHealth Group

Full Stack Engineer

Hyderabad, India

09/2024 – 09/2025

- Built and deployed a clinical question-answering assistant using a **RAG architecture (OpenAI GPT-4o mini, ChromaDB, OpenAI text-embedding-3-small)**, implementing backend retrieval workflows integrated with **LLM prompts** to deliver accurate, context-aware medical query responses.
- Developed and maintained modern, **scalable web interfaces (React, Next.js)** for member portals serving **50M+** users across **4 business lines**. Optimized member coverage and benefits journeys to **enhance user engagement, informed decision-making**, and accessibility.
- Applied **low-level** design principles to migrate **legacy SOAP APIs to GraphQL**, optimizing request/response logic, payload handling, and resolver architecture, boosting **API performance** by **30%** and advancing scalable, efficient data access for core applications.
- Automated deployment pipelines and led seamless migration from **on-premises to AWS (EKS, ASM, S3, IAM, CloudFront)**, ensuring robust, **high-availability releases and improved scalability**.

Optum, UnitedHealth Group

Software Engineer

Hyderabad, India

06/2022 – 09/2024

- Delivered secure **REST APIs** in **Java** and **Springboot** with HIPAA compliance, reducing **database call latency** by **20%**. Enhanced **digital health** platform by integrating EMRs using **bi-directional APIs integrating to Salesforce app**, automated onboarding, visit summaries, care team-member communication, and **streamlining clinician workflows** for **multi-market Senior Community Care** expansion.
- **Architected DevOps Infrastructure** for new applications using **Docker** and **Git**, implementing **automated CI/CD pipelines** that **reduced build cycles by 60%** across **35 projects** and **QA process turnaround time by 70%**. Improved **code quality coverage to 90%**. Enabled **zero downtime and high availability**, managed API gateway, created **unified Grafana dashboards** to monitor performance, achieved **100% vulnerability resolution**, and **saved 30% on cloud operations storage costs**.

PROJECTS

LlamaCore Inference

2025

- Set up and built the **llama.cpp** library for **local and GPU-enabled** environments, preparing and **quantizing large language models** into **GGUF** format for **efficient inference** compatibility.
- Explored and studied **llama.cpp** tools (**llama-cli, llama-server**) and optimization techniques including hardware support to enable efficient multi-architecture LLM inference.

SQL Bot

2022

- Created a **Rasa-Core** module with **NLP training data**, converting plain English to **SQL queries**.
- Built an external application, **Rasa-action-server**, with **rasa-python-sdk** to connect with the **DB** and the server's response.

Medical Chain-Deep Learning & Ethereum Blockchain Integrated Secure Electronic Health Record System for COVID-19

2022

- Implemented **UNet** for lung segmentation (**CXRs**), **InceptionV3** model with an accuracy of **92-95%**.
- Introduced the **OCR-BERN** system for patients' utility. Used **IPFS** to provide a scalable, secure solution for storing CXR images, Metamask wallet, React.js, **Solidity** and **Flask** API to integrate the Dapp ([demo](#)).

Highway drivers' drowsiness detection using RPi and CNN technique

2021

- Modelled a drowsiness detection system using **OpenCV, Keras, Tensorflow**, and a **CNN** deep learning algorithm using **7000** open-source eye data images.
- Deployed the model on **Raspberry Pi**, integrating with **Pi camera** for a real-time, standalone system with an accuracy of **95%**.

Intruder ReID and Tracking

2021

- Designed an **individual reidentification** system and visualized detection locations for surveillance applications.
- Leveraged the **Market1501** and **COCO** datasets, employing **ResNet50** and **YOLOv3** algorithms.

PUBLICATIONS

Integration of Deep learning and Blockchain technology for a Smart Healthcare Record Management System ([link](#))

Elsevier, 09/2024

Highway Drivers Drowsiness Detection System Model with R-Pi and CNN technique ([link](#))

IEEE Xplore, 11/2021