Varadrajan Kunsavalikar

Engineer | AI Engineer

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Professional Summary

AI/ML Engineer with 2+ years of experience in building and deploying machine learning,deep learning models (CNNs, YOLO, Transformers), Generative AI systems (LLMs, RAG, LangChain), and end-to-end pipelines in production. Specialized in computer vision, intelligent document processing, and multilingual (English,Spanish,Arabic) NLP. Proficient in Python, PyTorch, TensorFlow, OpenCV, and cloud platforms (Azure, AWS).

Core Competencies:

Machine Learning |Deep Learning (CNN, RNN, Transformers) | Generative AI (Prompt Engineering, Fine-tuning) | RAG Frameworks (LangChain)| AI Guardrails |OCR (Tesseract, PaddleOCR, DocTr, Mistral OCR, Azure Form Recognizer, AWS Textract)| NLP (NER, Translation, Text Summarization) | Python Development (Flask, FastAPI) | Computer Vision (YOLOv5/v8, OpenCV, LayoutLM) | VLMs/LLMs (GPT, Mistral, Azure OpenAI, Hugging Face) | PyTorch, TensorFlow, Keras | Vector DB – Chromdb, Faiss, Pgvector, Milvus|Cloud – Azure, AWS.

Professional Experience:

AI Engineer | Genzeon, Pune — May 2023 – Present

Key Projects:

- **Contract Insight Generator (Payor Provider Legal Agreements) (Decision Support System)**
  Implemented **multi-OCR** and Gen AI Framework solutions, improving compliance review efficiency by **40%** & evaluating risks and compliance via **RAG framework** with **RAGAS metrics**.
- **Medical Coding & SOAP Notes Generator**
  Leveraged Azure Foundry's TT4H to extract medical coding relations and clinical entities from summarized progress notes, generating structured SOAP notes for improved clinical documentation efficiency.
- **Multi Document Q&A (Multilingual RAG-based System)**
  Implemented **Markdown OCR** and RAG framework-based multilingual (English,Spanish,Arabic) document querying system.Integrated **LangChain** and **VectorDB** for accurate contextual search and answers.
- **Business Intelligence Data Assistant**
  Created an **LLM-driven data assistant** to query structured DBs using NL prompts**Microsoft Copilot Studio for HRMS**
  Integrated AI analytics into HRMS workflows using **Microsoft Copilot Studio + Azure AI**
- **Field Extraction Using VLM**
  Open-source lightweight Vision-Language Models for automated, accurate document data extraction.
- **AI Guardrails and Ethical Framework Development**
  Detecting and Building AI Guardrails Framework using custom and third-party tools.

Associate Data Scientist | Genzeon, Pune

Key Projects:

- **Multi-Source Copilot**
  Developed RAG framework-based tool with Langchain & Azure LLM to enhance healthcare decision-

making by integrating **Medical Claim, CCDA, and CMS US government data**. Enhanced healthcare decision-making using real-time medical data retrieval.

- **Consolidated Clinical Document Architecture (CCDA) Summarization**
CCDA Summarization uses advanced custom built xml parser and LLM technology to simplify and summarize complex CCDA documents, enhancing data exchange and interoperability across healthcare systems. This streamlines communication and boosts efficiency and patient care.
- **Medicare Analytics (CMS Data)**
Visual analytics solution using **CMS.gov data** to present comprehensive healthcare sector insights across the US, supported by Star Copilot **(Postgres SQL DB).**
- **API Regression Automation**
Automated testing processes by analysing API responses and auto-generating precise test cases, significantly reducing manual effort.
- **Computer Vision Models (YOLO)**
Built and deployed custom **YOLOv8 models** for checkbox detection and signature recognition with **68 % and 75% mAP50-95**. Enhanced image quality using OpenCV filters and segmentation techniques for improved model performance.
- **Translation models**
For **Spanish to English** vice versa and **Arabic to English** for clients of different linguistic requirements.

Business Associate |Medtronic , Mumbai — Oct 2019 to April 2020

Technical Skills:

Programming Languages: Python

Frameworks & APIs: Flask, FAST API, Langchain, Pytorch, Keras, Tensorflow

AI Technologies: Machine Learning, Deep Learning, Generative AI, RAG Frameworks, Agentic AI, NLP, Computer Vision, OpenCV, YOLO

Open Source, Cloud & Databases: Huggingface, Azure (AI services), AWS, GCP, Relational DB(postgresql , sqlite3), Vector DB(faiss, milvus, chromadb),Snowflake Cortex

Tools: Git, Apache Airflow, Linux, Windows, Microsoft Copilot Studio, Azure AI Foundry

Education:

PG Diploma in Advanced Computing — CDAC Pune, 2023 | 70.31% (Grade-I)

B.Tech. in mechanical Engineering — DBATU, Lonere, 2018 | 81.9%

Certifications and achievements:
- **-**Analytics Vidhya - Certified AI & ML Blackbelt+Program
- -Microsoft Certified: Azure AI Engineer Associate
- -Microsoft Certified: Azure AI Fundamentals
- -Microsoft Certified: Azure Data Fundamentals
- -Microsoft Certified: Azure Fundamentals
- -Leading Leaderboard - Capstone Project - Certified AI & ML BlackBelt+ Program

Articles:
- - From Markdown to Meaning: Unlocking Structured Intelligence with Mistral OCR
- - Welcome to the Country of Data Science — A Mental Map
- - From Engines to Algorithms: Understanding Deep Learning Through Cars

Languages:
- - Marathi (Native), Hindi (Advanced), English (Advanced)