Deepthi Venmanasseril Jainlal

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Education

| **MS in Engineering Management** | **Westcliff University** | *California, USA* | **10/2025 – 10/2027** |

- **Coursework**: Engineering management, Big Data Analytics.

| **MTech in Computer Science** | **VIT University** | *Vellore, India* | **08/2019 - 07/2021** |

[Specialization in Artificial Intelligence and Machine Learning]

- **Coursework**: Algorithms, Data Structures, Big Data, Databases, Inference, Statistics, Artificial Intelligence, Machine Learning, RL, Statistics.

Professional Experience (EXPERIENCE: 4.6 YEARS)

Ford Motors

Data Scientist   **08/2023 - 07/2025**

- Designed and developed a dashboard for analyzing supplier, part price, and commercial adjustment cost using **Qlik Sense, Alteryx, Dataform, and BigQuery**.
- Developed **Lane Rate estimation dashboard** using machine learning algorithms and data engineering with **Alteryx, GCP, and Dataform**.
- Created a dashboard to identify **amortization opportunities in suppliers**, resulting in **$23 million in potential savings** by leveraging **Gemini LLM and prompt engineering**; recognized within the team for this project.
- Developed **Nuts and Bolts Price Estimation Dashboard** using **Random Forest algorithm and Power BI**, achieving **$5 million in savings**.
- Received **Recognition for Excellence** from Ford for improving Lane Rate value accuracy.
- Received **Recognition for Collaboration** from Ford for contributions to cross-functional teams.

PHILIPS HEALTHCARE

Software Engineer (also Machine learning Engineer as GIG)   **07/2021 - 07/2023**

- Developed features for **patient monitor support software** using **C#, .NET, and gRPC**.
- Removed redundant code and replaced **Perl scripts with C#**, enhancing performance of the patient monitor upgrade by **25%**.
- Designed and implemented a **test automation project** for the support tool application, reducing manual testing time by **60%**.
- Developed a **patient monitor simulator** enabling easy testing of new web-based support tool versions, reducing testing complexity by **80%**; simulated capabilities of various patient monitors not present locally.
- Developed **risk analysis strategies** using machine learning algorithms and statistical methods including **Monte Carlo simulation**; presented results to the risk team to help understand and analyze risk patterns and features.
- Generated **synthetic data** using machine learning algorithms and forecasted risk analysis metrics using **Random Forest algorithm**.

Deep Learning Research Intern   **09/2020 - 07/2021**

- Developed **deep learning models** for medical image segmentation using **CNNs (YOLOv3, nnU-Net)** and **PyTorch**, achieving **89% accuracy**.
- Annotated **900 ultrasound images** and created masks using **Python and OpenCV** through close collaboration with doctors.

Projects

- **Agentic AI Used car Inspection Agent**: Developed an autonomous agent leveraging Computer Vision and LLMs to automate secondhand car inspections (Google AI Intensive); integrated Vision-Language Models (VLM) for real-time defect detection.
- **Real-Time Emotion Classifier**: Built a high-speed facial expression recognition system using CNNs, PyTorch, and OpenCV, capable of classifying 7 core emotions in live video streams.
- **Raspberry Pi telegram Chatbot**: Developed a chatbot integrating NLP intents and the Telegram API.
- **Consolidation center selection Optimization:** Designed a Python-based LP optimization model using PuLP to maximize ad conversions under budget constraints, with solver logic transferable to Gurobi/CPLEX

Blogs/Publications

- Solving Real Logistics Problems: Building a Consolidation Center Optimizer in Python
- Evaluating Sampling Efficiency in Bayesian Inference: A Benchmark of Markov Chain Monte Carlo vs. Hamiltonian Monte Carlo
- The Ultimate Guide: Hybrid Anomaly Detection with Autoencoders & XGBoost.

Core Competencies

- **Languages and tools :** Python | R programming | C# | C | SQL | BigQuery
- **Libraries & Frameworks:** PyTorch | TensorFlow | Scikit-learn | Pandas | NumPy | Matplotlib | NLTK | Spark | Transformers | LLM | Agentic AI
- **Tools :** Git | Jira (Agile)| CI/CD Tools | Jupyter | Docker | MySQL | qlik sense, Power BI, Alteryx