Devendra Pal

Data Scientist | AI Engineer | ML Engineer
Email: Paldevendra93@gmail.com | Phone: +91-9594304354
LinkedIn: www.linkedin.com/in/devendra-pal-7223b210a

Professional Summary

Results-driven professional with 8+ years of combined experience, including as a Data Scientist specializing in Machine Learning, NLP, MLOps, Computer Vision, and GenAI, and as a Machine Design & Application Engineer in HVAC. Skilled in delivering impactful AI and ML solutions across various industries, with a strong track record in implementing and optimizing advanced machine learning models, particularly ML and Generative AI, to drive business outcomes and operational efficiency

Technical Skills

- Programming Languages: Python
- Machine Learning Algorithms: Linear, Logistic, RF, XGB etc.
- Libraries & Tools: Numpy, Pandas, Matplotlib, Hugging-face, Unsloth, Lang-chain,
- Crewai etc.
- Frameworks: Flask, FastAPI
- MLOps: MLFlow, DVC, Docker, CI/CD, Git
- Databases: SQL

Work Experience

Data Scientist - TCG Digital

06/2022 – Present
- Led multiple machine learning, NLP, and GenAI projects for clients, achieving significant improvements in process efficiency.
- Key projects include NaSCN prediction, acid prediction for HPCL, and anti-money laundering case extraction using NLP techniques, fine-tuning Llama for Cata_LM in generative AI tasks and utilizing Retrieval-Augmented Generation (RAG) in Reliable AI solutions.

AI Engineer - Datten & Wissen

06/2021 - 06/2022
- Developed computer vision models for mosquito detection and safety equipment detection in industrial environments.
- Extracted critical information from legal documents using OCR and NLP techniques for clients like IIFL.

Junior Data Scientist - Prithvi.Ai

01/2021 - 06/2021
- Worked on sensor data analysis for alarm prediction using Auto-encoder models.
- Contributed to polymer quality prediction, delivering actionable insights.

Data Analyst & Application Engineer- Maico Ventilation India

01/2020 - 07/2020

- Data Analysis of ventilation system.
- Design & select the Ventilation equipment on the basis of requirements in project.

Application & Design Engineer – Euroclima India

10/2016 – 01/2020

- Design the AHU, copper piping selection, fan selection etc.
- Led projects in the AHU department from inception to completion, ensuring high-quality outcomes and adherence to project timelines.

Application Engineer – Sensicool Technology

07/2015 – 10/2016

- Worked on Enquires, estimation, project execution etc.

Selected Projects

Cata_LM (GenAI)

Fine-tuned the Llama 3.1 model on lab data in the Alpaca format to determine the optimal proportions of Amorphous, Crystalline, and base metal for the Hydrocracking process, with the primary goal of assessing selectivity and activity based on these proportions and vice versa.

Reliable_AI (GenAI)

Built a predictive system to identify potential plant shutdown risks by analyzing data to forecast issues and pinpoint affected tags. Employed Llama 3.1 within a Retrieval-Augmented Generation (RAG) model to retrieve relevant solutions from historical data, enhancing issue resolution and minimizing downtime.

Sodium Sulphate and Sodium Thiocyanate Prediction (ML)

Implemented feature engineering, selection, and hyperparameter tuning to predict target variables using XGBoost and Random Forest.

IIFL Legal Documents Agreement (OCR, NLP)

Led a project with two main components: implemented an OCR system using the docTR engine for document processing and developed an NLP solution using regular expressions to extract client names, registration numbers, and property details.

Education
BE in Mechanical Engineering - Mumbai University

Certifications
- PGD in Data Science & AI – Edvancer
- TCGMcube Certificate – TCG Digital
- Data Science GenAI – Coursera