Pragalbh Sharma

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Technical Skills:

Languages: Python, SQL, Java, C++
Frameworks: Pandas, Numpy, Scikit-Learn, Matplotlib, Tensorflow
Tools: Excel, Word, Powerpoint, MySQL,Hugging Face,Transformers
Soft Skills: People Management, Excellent Communication

EDUCATION

Board	Tenure	Educational institution	CGPA/Percentage
B. Tech (CSE)	Sep 2023 –Ongoing	Vellore Institute of Technology	8.28
Class XII	May 2023	Adani Public School, Mundra	74.4%
Class X	May 2021	Shri O.P Jindal Vidya Niketan, Mundra	90%

WORK EXPERIENCE

Solvit Hackathon (Mar 2025)

MACHINE LEARNING ENGINEER IN SOLVIT HACKATHON

- Improved a high-accuracy **Machine Learning Model** for **Response Time Prediction**, achieving **96% accuracy**, optimizing efficiency in real-time systems.
- Engineered an **Anomaly Detection Model** with a **92% accuracy rate**, leveraging advanced statistical techniques to identify outliers in real-time data streams.
- Processed a **real-time predictive analytics model**, reducing **latency by 25%** and enhancing system responsiveness.
- **Automated feature selection process utilizing a Python script**; this minimized data preparation time by six hours each week, and also **solved machine learning model training efficiency.**
- Spearheaded development of a Python script to automate data cleaning for machine learning models, reducing time by 6 hours weekly and **increasing model training efficiency**.

PROJECT

Medical Report Summarizor using LLMs (Jul 2025)

- Developed an **AI-driven system** to summarize diagnostic and clinical reports using the **Flan-T5 instruction-tuned LLM.**
- Developed a system for parsing 300+ PDFs monthly, extracting multi-page medical text, and creating summaries, thereby freeing up the team's capacity to focus on higher-priority data analysis tasks.
- Directed BERTScore analysis across 500 summarized medical reports, pinpointing specific areas of semantic discrepancy and enabling targeted prompt refinements that led to a **41% improvement in content alignment.**
- **Modernised summarization accuracy from 52% to 93%** (BERTScore F1) by optimizing **prompt design** and **input chunking.**
- Deployed as a **Colab-based prototype** for low-resource execution in healthcare settings.

Public Health Insight Model using LLMs (Jul 2025)

- Integrated the **datatotext engine** with existing hospital data systems, automating the generation of daily public health reports and **reducing manual reporting time by 40%.**
- Leveraged **Flan-T5** to identify trends, resource gaps, and policy suggestions from structured health summaries.
- Implemented BERTScore semantic evaluation framework to measure the data-to-text insight engine's performance on public health narratives, **achieving a notable 95% correlation** with human expert evaluations.
- Conducted a scheduled code review process within the first three months, identifying and resolving 12 potential bugs prior to integration testing, improving code quality**..Increased insight accuracy from 36% to 90%** by refining **instruction prompts** and structuring model inputs.
- **Engineered a user-friendly interface** for accessing and visualizing public health data in weekly reports, **resulting in 99% of health administrators** surveyed reporting improved data accessibility.

CERTIFICATES

IBM AI Engineering Professional Certificate (Apr 2025)

- Completed a comprehensive program **on AI and deep learning**, including **machine learning, neural networks, and NLP.**
- Built and deployed ML models using **Python, Scikit-learn, TensorFlow, Keras, and IBM Watson tools**.
- Projects included **chatbots, sentiment analysis, and image classifi**cation, focusing on real-world AI deployment.

Gen AI Advanced Fine-Tuning for LLMs (Apr 2025)	- Learned advanced techniques for **fine-tuning large language models (LLMs)** using domain-specific datasets. - Covered **instruction tuning, parameter-efficient fine-tuning (PEFT), LoRA,** and evaluation metrics like BLEU/BERTScore. - Applied concepts to build **task-specific generative AI systems** using Hugging Face Transformers and Colab.