

PARV PAREEK

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Education

Marwadi University, Gujarat

2022 – 2026

Bachelor of Computer Engineering, CGPA: 9.2

Vapi Public School, India

2006 – 2021

ISC (Class XII), 80%

Experience

Research Intern, IIT Indore

May 2024 – September 2024

Under Dr. Chandresh Maurya

Indore, India

- Worked on **speech models** and large language models (**LLMs**) to classify Alzheimer's disease patients based on speech.
- Reviewed and implemented **research papers**, applying novel techniques to real-world speech processing problems.
- Gained in-depth expertise in applying deep learning solutions to complex speech-related challenges.

Projects

Fraud Transaction Detection System — *Scikit-learn, Pandas, XGBoost* (GitHub) **Live Demo**

- Developed a robust **ETL pipeline** in Python (**pandas**) for transaction data cleansing, transformation, and feature engineering, enabling streamlined pre-processing.
- Conducted **EDA and data visualizations** to surface key patterns and perform **feature engineering**.
- Trained and fine-tuned an **XGBoost classifier** (with grid search **hyperparameter tuning**), identified the most influential features, and deployed a real-time demo via **Streamlit**.

Neural Machine Translation: English–Mandarin — *PyTorch, NLTK* (GitHub)

- Implemented a sequence-to-sequence model with a **bidirectional LSTM encoder** and **unidirectional LSTM decoder** in PyTorch, integrating **Bahdanau attention** to mitigate the information bottleneck.
- Preprocessed corpora using **NLTK**, trained the model end-to-end, and achieved a **BLEU score of 36.5** on the test set.

Multitask BERT (SimCSE Framework) — *PyTorch, NumPy* (GitHub)

- **Fine-tuned BERT** using **contrastive learning (SimCSE)** on three downstream tasks: sentence similarity (SemEval STS Benchmark), paraphrase detection (Quora), and sentiment analysis (SST).
- Achieved strong performance: **93% accuracy** on STS, **88%** on Quora paraphrase detection, and **94%** on SST sentiment classification.
- Built **end-to-end** PyTorch pipelines for data loading, model training, and evaluation, optimizing for cross-task generalization.

Technical Skills

Machine Learning: PyTorch, HuggingFace, W&B, scikit-learn, NLTK, NumPy, Pandas, LangChain, PySpark, SAS

Web Technologies: Express, React, MongoDB, PostgreSQL, FastAPI, TailwindCSS

Cloud Technologies: AWS, Docker, CI/CD, Github Actions

GenAI: DSPy, OpenRouter, OpenAPI, Gemini SDK, LangChain, LlamaIndex, Neo4J, Pinecone

Languages: Python, C++, TypeScript

Achievements

- **Second Prize Winner** at an **AI + Blockchain** hackathon for building autonomous communication agents.
- Organized and hosted a **tech meetup** of **150+** developers as a Tech Team member of DeCodeCafe community.

Certifications

AWS Academy Graduate - AWS Academy Cloud Foundations

Nov 2024

Advanced Learning Algorithms by DeepLearning.ai

Credential ID: FPPE6H2CPDME