DEBOPAM DEY

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Objective

Passionate AI and Machine Learning Engineer with experience in ML, DL, NLP, and Exploratory data analysis. Excited to tackle real-world challenges and build meaningful, impactful solutions.

Technical Skills

Languages: C, C++, Python, SQL

Technologies: Numpy, Pandas, Matplotlib, Seaborn, Pytorch, tensorflow, mlflow, scikit-learn

Developer Tools: vscode, jupyter-notebook, collab, excel, Kaggle, Huggingface, git and Github.

Education

NIT Agartala, M.Tech Data Science and Engineering — Aug 2023 – Present

- CGPA: 8.36/10.0
- **Coursework:** Machine Learning, Deep Learning, Natural Language Processing, Data Mining, Big Data, Time-series Data etc.

NIT Agartala, B.Tech Computer Science and Engineering — July 2019 – May 2023

- CGPA: 6.89/10.0
- **Coursework:** Programming, Data Structure, Algorithms, Object Oriented Programming, Information Retrieval, Engineering Mathematics, Software Engineering etc.

Projects

AI-Generated Text Detection Tool — pritam2014/BERTAIDetector

- Created a tool to identify whether text is AI-generated or written by humans, achieving an impressive 96.5% accuracy using a fine-tuned BERT model.
- Developed the solution with Python, PyTorch, Transformers, and deployed it using Streamlit and Huggingface.

Music Recommendation for Social Media Posts — Dec 2024 - Jan 2025

- Designed a system that suggests personalized music by analyzing images from social media posts, making content more engaging and relatable.
- Worked with PhiData, Google Generative AI, and Python to bring this idea to life.

Fine-Tuned BERT for Twitter Sentiment Classification — pritam2014/SentimentBERT

- Fine-tuned a BERT model to classify sentiments in tweets, delivering accurate results and gaining insights from real-world data.
- Used Python, Hugging Face Transformers, PyTorch, and Kaggle datasets to build and validate the model.

Text Clustering and Visualization for Similar File Organization — Nov 2023 - Dec 2023

- Applied TF-IDF vectorization, clustering techniques like KNN and DBSCAN, and dimensionality reduction (PCA, t-SNE) to organize text files based on similarity.
- Leveraged Python, scikit-learn, and visualization libraries like Matplotlib and Seaborn to create an intuitive system for grouping documents.

Publications

Automatic Question Generation research progress and challenges. — June 2024

- Published in ICDSNE 2024, presenting the progress and challenges in advancing automatic question-generation techniques.