Vedant Bairagi

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TECHNICAL SKILLS

Libraries & Frameworks: Tensorflow, FastAPI, SpaCy, Selenium, Jupyter, Airflow, crewAI, Autogen, PyTorch
Programming & Databases: Python, SQL, Cypher, Bash, Neo4j, MySQL, BigQuery
Industry Knowledge: Machine Learning, Information Extraction, Deep Learning, Google Cloud Platform, Large Language Models, Retrieval Augmented Generation, Agentic AI, Linux, Data Visualization, Automation, API

PROFESSIONAL EXPERIENCE

Data Scientist : JM Financial Jun 2023 – Current

- Designed and implemented an end-to-end **Generative AI (GenAI) application** to automate report generation, reducing manual effort and improving efficiency.
- Implemented a **fine-tuned BERT model** for an entity-based search engine, reducing search errors and improving relevance.
- Automated mis-selling detection in customer calls using a quantized **Whisper speech-to-text** model and OpenAI's GPT API for transcript analysis.
- Developed and deployed an **XGBoost-based customer churn model**, automating predictive analytics for marketing teams to improve customer engagement and retention.
- Created dashboards in **Mixpanel and Looker Studio**, reducing manual reporting efforts and improving efficiency in business communication.

Research Intern : Tata Research Development and Design Centre Jan 2023 – May 2023

- Worked on **migration** of a Word Sense Disambiguation library from **Java to Python.**
- Studied and implemented **zero-shot** classification methods using ChatGPT for **Named Entity Recognition (NER)** in Hindi.
- Conducted a review of the literature on various **prompt engineering** methods.

Research Intern : Tata Research Development and Design Centre May 2022 – Jul 2022

- Developed **LSTM models** for extracting time and event entities from Hindi text, enhancing NLP capabilities for low-resource languages.
- Improved annotations present in the data set, improving the benchmark accuracy score. The work was submitted to ICON conference.

PROJECTS

LoRA fine tuning of Stable Diffusion

Fine tuned stable diffusion model using Low rank adaptation on comic book characters.

- Created a dataset for various comic book characters images.
- Fine tuned the stable diffusion model on the dataset using LoRA.

Book Analysis Using NLP

Analyzed classical books using NLP and Network Analysis techniques.

- Used the **BookNLP** library to extract entities and events from the books.
- Built character interaction graphs using the entities and performed network analysis on the graphs.
- Performed **sentiment analysis** on the books, tracking the progression of emotions throughout the duration of the book.

EDUCATION

B.Tech Computer Engineering with Honors in Data Science
COEP Technological University, Pune 8.59/10 CGPA