Pratham Taneja

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Academic Qualifications

Guru Gobind Singh Indraprastha University — New Delhi, India
Bachelor of Technology in Electronics and Communications Engineering - 8.86 CGPA — *Aug 2019 - Aug 2023*

Technical Knowledge & Skills

Languages: **Python, C++, SQL, JSON, JavaScript.**

Tools/Frameworks: Tensorflow, PyTorch, NumPy, Scikit-Learn, Git, GitHub, Pandas, Matplotlib, OpenCV, BeautifulSoup, Excel, Power BI, DMBS, FastAPI, Streamlit, MySQL, LangChain, llamaIndex.

Work Experience

Jr. Research Analyst — Dec. 2023 – Present
ResearchVerge Labs — *Delhi, IN*

- Analyzing data and presenting findings in a clear and concise manner using tools like Tableau and PowerBI.
- Impleneted Slowly Changing Dimension use cases, to fortify data integrity and reduced the update times by 15%.
- Utilized SQL skills, conceptualizing and executing complex queries with a focus on optimizing database performance, resulting in reduction in query execution time for clients.
- Conducting research on topics such as Graph Neural Networks, LayOutLMV for OCR and NLP directed by the senior research team.
- Working closely with the core team and assisting them in the preparation of reports, presentations, and other research deliverables.

ML Intern — July 2023 - Oct 2023
Unify.AI — *London, UK (Remote)*

- Worked with the IVY framerwork team by addressing and resolving various GitHub queries, resulting in the successful working of a unified framework with PyTorch, TensorFlow and JAX.
- Innovative integration of diverse methodologies to enhance the efficiency and effectiveness of transpiler data pipelines, streamlining data processing and solidifying the foundation for future improvements.

Projects

- **Emotional state analysis and prediction through Vocal features (CNN, Tensorflow, MFCC)**:
  - Led a collaborative project on emotion recognition via voice analysis.
  - Utilized Python's librosa library to extract MFCC diagrams from WAV files.
  - Evaluated multiple pre-trained models (ConvNext, VGG-16, ResNet) for discerning emotions like calm, anger, disgust, fear, and surprise.
  - Identified ConvNext as the top-performing model with a validation accuracy of 97%.
  - Optimized the pipeline, reducing training time by up to 10% and lowering Mean Squared Error (MSE) by up to 5%.
- **SemanticSearch Application (Python, LangChain, SemanticSearch, OpenAi-API)**:
  - Developed semantic search service integrating LangChain and Elasticsearch, utilizing OpenAI and FastAPI.
  - Implemented query processing to extract concise answers from the text.
  - Ensured efficient information retrieval and relevance using advanced Semantic Search techniques.

Coursework & Certifications

- **Data Science Master Online Course (Coding Blocks India, Sep 2022)**
- **Deep Learning Specialization (DeepLearning.AI, Dec 2023)**
- **Google Advanced Analytics Professional certificate (Google, Jan 2024)**
- **Big Data, AI and Ethic (UC Davis, April 2024)**
- **Generative AI with Large Language Models (DeepLearning.AI, April 2024)**
- **64x Microsoft Azure Skill Badges (Received during Microsoft AI skill Challenge 2023)**