Chirayu Tripathi

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Education

University of Florida	Gainesville, FL, United States
Master of Science, Computer Science. GPA: 3.81	*August 2022 - Present*
Medi-Caps University	Indore, MP, India
Bachelor of Technology (hons.), Computer Science and Engineering. GPA: 3.60	*August 2017 - May 2021*

Skills

Programming Languages & Databases: Python, C/C++, R, Erlang, MySQL, MongoDB.
Frameworks & Applications: Hadoop, Tableau, Numpy, Pandas, Matplotlib, Scikit-learn, PyTorch, Tensorflow, Excel, Git, AWS, Flask, REST API, Apache Spark, SAS, ETL, Docker, Kubernetes, Langchain.
Technical Skills: Deep Learning, RPA, Statistics, Linux, DBMS, Algorithms, Data Visualization, MLOps, NLP.

Professional Experience

Research Assistant (Machine Learning) — November 2022 - Present
UF Health, PRISMAp lab — *Gainesville, Florida, United States*

- Collaborated with the Department of Nephrology to develop a time-series model for predicting arteriovenous fistula remodeling and reintervention based on hemodynamics. The project resulted in an R2 score of 0.75.
- Developed graph neural networks (GVAEs, GATs) to predict effective drug repurposing for sepsis treatment, achieving high predictive accuracy.
- Leveraged AIF360 and SHAP libraries to improve fairness and explainability of medical deep learning models, mitigating bias and enabling model interpretations.
- Trained BERT & T5(encoder) from scratch on medical data to visualize clinical language concepts using UMAP.

Machine Learning Engineer — June 2021 - July 2022
Bitbaza.io — *Chennai, Tamil Nadu, India*

- Cut costs 15% by deploying T5 transformer on AWS, achieving production-ready REST API to replace GPT-3.
- Contributed to PDG feature development by training an ANN to classify buyers, achieving an AUC of 0.81.
- Innovated a business intelligence feature leveraging AI and past sales data to increase customer sales up to 10%.
- Led the real-time 'Social Listener' project to identify potential clients on social media, and onboarded 2 new clients. Valued team coordination and feedback.

Machine Learning Engineer Intern — January 2021 - May 2021
Bitbaza.io — *Chennai, Tamil Nadu, India*

- Fine-tuned OpenAI's GPT-3 to personalize cold emails, leading to a 20% increase in email open rates, a 4% boost in response rates, and a 2% increase in conversion rates, demonstrating analytical thinking and optimization.
- Developed a SaaS product recommender engine using FAISS and a combination of other NLP algorithms.

Projects

nl2query: Convert Text to Database Queries | *NLP, Text Generation, CodeT5+* — May 2023 - August 2023

- Engineered a framework to translate natural language text into queries for Pandas, MongoDB, Kusto, and Neo4j databases, enabling seamless search across disparate data sources using plain English. LINK

Multilingual Sentiment Analysis using mT5 Transformer | *NLP, Classification, mT5* — April 2022 - July 2022

- Fine-tuned an mt5-Small model on a custom dataset collated from a wide variety of reviews and tweets to perform sentiment analysis in 6 languages - English, Hindi, German, Korean, Japanese, Portuguese. LINK

Latent Factor based Recommender System using Spark ALS | *Spark* — October 2021 - December 2021

- Implemented the popularity based recommender using latent factor model with ALS to decrease root mean square error by 15% . Prevented cold start problem for a new user by using additional metadata like tags.

Achievements

- Ranked 10th globally out of 2500 participants in the "Love in the time of screens" Machine Learning hackathon organized by HackerEarth, which involved matching dating candidates based on their profile.

- Contributed to open source by implementing CodeT5 support for SimpleT5 library LINK.