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Somya Upadhyay

Objective:

Seasoned ML Engineer proficient in Search optimization, recommender systems, and Large Language Model development. Eager to apply expertise in machine learning and technical leadership to drive innovation and advance technology within a challenging Data Scientist role in India.

Experience:

Technical Lead - ML Scientist | HCL Technologies | August 2022 - Present

- **Modelling**
  - Develop and maintain robust data pipelines, ensuring data quality and accuracy for modeling and analysis.
  - Spearheaded the integration of ML capabilities into HCL software products, driving enhancements in email engagement prediction, NLP, search optimization, and collaborative filtering-based recommender systems.
- **Collaboration**
  - Communicate findings and insights to stakeholders through compelling data visualizations and presentations.
  - Continuously stay updated with the latest ML and data science advancements through self-learning and attending industry conferences.
  - Collaborate with a team of 14 members, guiding technical decisions and mentoring junior colleagues. I set up processes to streamline workflow.
- **Leadership**
  - As a scrum master, I conduct daily scrum, maintain goals for sprints, and conduct sprint reviews.
  - Employ an agile approach, ensuring efficient development and timely delivery of projects.
  - I have improved the efficiency of my team by 100 percent by streamlining workflow.

Projects

- **Contextual Query Correction for SEO:**
  - Enhanced query correction using transformer models and global vectors for contextual query correction
  - Tuned Transformer model on domain data to enhance model performance on top query suggestion.
  - Optimized performance through rigorous performance benchmarking by Bert Score metrics.
- **Predictive Engagement Scoring with XGBoost:**
  - Built XGBoost regression model for user engagement by email, SMS, and push notifications
  - Utilized user behavior on data for feature engineering.
  - Enhanced content recommendation and user segmentation.
- **Collaborative Filtering Recommender for Segmented Users:**
  - Developed a personalized recommender system with collaborative filtering.
  - Addressed cold start and sparsity issues effectively.
  - Validated system performance across diverse user segments.
- **LLM and RAG-based Coding Assistant Development:**
  - Created coding assistant using LLMs and RAG.
  - Fine-tuned models on coding documentation for HCL Notes.
  - Optimised tools after comparative studies on SOTA LLMs, Verctorising tools, and GPU resources.

Skills:

Machine Learning: Neural Networks, Natural Language Processing (NLP), Data Visualization, feature selection, Hyperparameter tuning

Programming Languages: Python (NumPy, Pandas, Scikit-learn, TensorFlow, Keras, Flask, Django), SQL, R, Prompt engineering

Tools: Vertex AI, GCP, BigQuery, GCS, Git, Kubernetes, Docker, Postman

Agile Methodologies: Scrum, Kanban, Jira

Team Leadership: Cross-functional Collaboration, Project Management, Mentoring

Education:

Masters in Science, Physics,
Birla Institute of Technology and Science, Pilani, 2017-2022

Bachelor's in Engineering, Mechanical,
Birla Institute of Technology and Science, Pilani, 2017-2022

Languages:

English, Hindi

References: Available upon request