HARDIK SRIVASTAVA

technical.hardik29@gmail.com | +91-9140581710 | Hyderabad, TS

Portfolio | LinkedIn | LeetCode | HackerRank | GitHub

EDUCATION

SRM Institute of Science and Technology — Chennai, TN
B.Tech in Computer Science Engineering with Specialization in Big Data Analytics (CGPA 9.56) — Jun 2023

SKILLS

Technical Skills	Machine Learning, NLP, Big Data, Micro-Services, Data Streaming, APIs, Unit Testing
Tools & Technologies	Java, Python, SQL, PyTorch, TensorFlow, Caffe, Sk-learn, Spark, Kafka, ZooKeeper, Splunk
Dev/MLOps	AWS, Docker, Kubernetes, Flask, MLFlow, Jenkins

EXPERIENCE

Applied Scientist — Jun 2023 - Present
JPMorgan Chase & Co. — *Hyderabad, TS*

- Working on Gradient Boosting models for Fraud Intelligence for JPMC Credit Card portfolios. Developed XGBoost & CatBoost-based classifiers, saving over $3B worth of fraud annually. Contributed to Model Governance operations as well.
- Developed Data Engineering jobs for high-velocity transaction data using PySpark. Performed Feature Selection using Decision Trees on 3x more features than legacy models. Selecting optimal features boosted Fraud-Capture Rate by 14%.
- Visualized CatBoost inference performances with provisioned compute. Proposed and built a thread-safe concurrent version of the model to perform faster inference during critical processes. Reduced existing SLAs greatly by 74%, to 50 ms.
- Implemented a Semi-Supervised Learning-To-Rank model using Gradient Descent in TensorFlow for a Client Screening search engine. Led to more nuanced ranking decisions in search results for 10M+ records over existing BM25 and TF-IDF.
- Designed a low-latency ETL pipeline using AWS Glue to maximize search relevancy. OOT Validations showed 62% mitigation in False Positive alerts, reducing approx. 700 hours (2 hrs/alert) of daily manual effort to review alerts.
- Achieved a benchmark of 66% overall performance boost in Realtime Screening with SLAs < 600 ms using FIFO scheduling, Multi-Threading and Spark Dynamic Partitioning. Led to $12.6K+ reduction in monthly production AWS costs.

Research Intern — Jun 2022 - Sept 2022
McGill University - *Mitacs Scholar* — *Montreal, QC*

- Developed a Vocabulary Expansion model in PyTorch for AAC research using Affinity Propagation and SWOW embeddings. Baseline comparisons (COCA) revealed a 4.41 unit mAP gain and a 21% decrease in OOV words for test cues.
- Delivered a POC on creating Sentence-based embeddings trained on RoBERTa to capture word-context in image captions. Achieved Krippendorff's alpha reliability score of 0.82 on 514 photos, tuning the existing vocabulary generation system.

Machine Learning Engineer - Intern — Jan 2022 - Jun 2022
Samsung Electronics — *Bangalore, KN*

- Achieved FP32 accuracy for INT8 inference using Quantization Aware Training for a Word-Disambiguation model. Led to 2.9% improvement over baseline F1-score. Collaborated on Model Serving using NVIDIA Triton & TFLite in Production.

PROJECTS

Auto-Explainability and Evaluation of LLMs Developed a framework for Transformers to explain model behavior by leveraging Integrated Gradients from TensorFlow. Implemented methods to attribute predictions to input features (image/text), quantifying feature importance to the model's decisions using charts. Integrated with MLFlow Evaluation API for auto-eval.

No-Code Algo-Trading Portfolio Manager Developed a domain-specific language-based engine to create and execute trades. Implemented the Mean Reversion algorithm in Python to trigger buy/sell decisions. Developed a Recommendation model coupled with a risk-scoring engine, to recommend high-returning products. Minimized risk by 15.2% using Backward Propagation.

PUBLICATIONS

- Multi-Modal Sentiment Analysis Using Text and Audio for Customer Support Centers [ref.]
- Neural Text Style Transfer with Custom Language Styles for Personalized Communication Systems [ref.]

ACCOMPLISHMENTS

- **Certifications** — AWS Certified Cloud Practitioner, AWS Certified Machine Learning Specialist
- JPMC ScaleUp Challenge 2024 — **1st Position**
- JPMC AWS DeepRacer Regionals 2023 — **2nd Position**
- Smart India Hackathon Nationals 2023 — **1st Position**