B NIKHIL SHARMA

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Summary

I am an accomplished Data Scientist with experience in financial crime detection. My work at HSBC has focused on enhancing data integrity and predictive accuracy through advanced machine learning models. Proficient in Python and Machine Learning, I have developed innovative solutions that streamline operations and improve team development. I am passionate about leveraging technology to drive measurable results.

Skills

- Machine learning
- ML pipeline
- AWS services
- Version control
- Natural language processing
- Python programming
- SQL databases
- Prompt Engineering
- Generative AI
- LLMs
- Hugging Face Transformers
- RAG

Experience

Data Scientist **04/2023 to Current**
HSBC **Bengaluru, India**

- Built end-to-end **ML pipeline** and integrated **CI/CD workflow** for a transaction monitoring model, automating model retraining and deployment, which reduced manual intervention by **80%**.
- **Tracked machine learning experiments** using **MLflow**, improving model reproducibility and enabling faster iteration cycles by **30%**.
- Deployed machine learning models using **FastAPI** and **Docker**, ensuring scalable and containerized deployment.
- Leveraged **AWS EC2, S3, ECR, Sagemaker** to train and deploy models, cutting infrastructure costs by **20%** through optimized instance usage.
- Used **Git** and **GitHub** for version control and collaborative development on projects involving **3+ team members**, streamlining the review and integration process.
- Applied **machine learning algorithms** (e.g., Random Forest, XGBoost, Logistic Regression, clustering) to solve classification and clustering problems.
- Utilized **Hugging Face Transformers** to generate embeddings for NLP tasks, improving downstream clustering and retrieval performances.
- Developed **Generative Adversarial Network(GAN)** using **pytorch** to generate synthetic HSBC customer data, as PoC to use in testing and tuning of Name Screening Model.
- Developed a **dynamic**, **unsupervised learning system** to generate monthly data quality reports for customer attributes (e.g., names, Dobs, document IDs) across multiple regions and source systems.
- Built a **retrieval-augmented generation (RAG)** pipeline for document-level question answering, using **LlamaIndex** and **ChromaDB**, as a PoC to test **Generative AI** in banking applications.

Junior Data Scientist **09/2021 to 03/2023**
HSBC **Bengaluru, India**

- Collaborated with multiple regional screening leads to understand the business needs, help them with **automation** of mundane tasks, and provide **data driven solutions**.
- Proficient in using **PySpark** for querying large-scale datasets and building robust data reconciliation processes, ensuring data integrity and consistency across diverse sources.
- Performed data analytics on HSBC's customer data to provide actionable insights on the data quality, which in-turn helped stakeholders to take corrective measures in reducing false positive alerts.
- Created interactive **dashboards and visualizations** using Python libraries and QlikSense to communicate insights to non-technical stakeholders.
- Automation of capturing **data quality** results originating from various excel sheets into master sheet using OpenPyXL library.

Junior Data Scientist - Intern   **03/2021 to 08/2021**
HSBC   **Bengaluru, India**
- Uncovered 5 key patterns from datasets through **exploratory data analysis**, enhancing data-driven decision-making.
- Visualized data trends using tools such as **Matplotlib, Seaborn, or Plotly.**
- Assisted in **data cleaning** and **preprocessing** for model development.
- Developed interactive dashboards leading to 50% quicker team insights using **QlikSense.**

Education and Training

Master of Technology: **Industrial Safety Engineering**   **05/2021**
National Institute of Technology, Tiruchirappalli   Tiruchirappalli

Bachelor of Engineering: **Mechanical Engineering**   **05/2018**
Shri Shankaracharya Group of Institutions   Bhilai

Websites, Portfolios, Profiles

- https://www.linkedin.com/in/b-nikhil-sharma
- https://github.com/NIKHILSHARMA5896