Vedant Ishwar Mohurley

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SUMMARY

AI Software Engineer specializing AI & ML Systems with 4+ years of experience building machine learning and AI-driven solutions across financial services and e-commerce domains. Skilled in Python, SQL, PyTorch, TensorFlow, and Scikit-learn with hands-on experience developing ML pipelines, NLP applications, and predictive modeling systems. Experienced in Generative AI and LLM-based applications including document understanding, recommendation systems, anomaly detection, and Retrieval-Augmented Generation (RAG). Familiar with model deployment, feature engineering, and data visualization using modern analytics tools. **Author of technical books on SQL and Machine Learning and researcher** in applied AI focused on early mental health detection using Large Language Models on clinical texts and patient journals. Interested in developing scalable AI software systems and contributing to real-world AI engineering initiatives.

SKILLS

Programming & Development: Excel, SQL (MySQL, PostgreSQL), Python, Pandas, NumPy, Scikit-learn, PyTorch, TensorFlow, Keras, OpenCV
Artificial Intelligence & Generative AI: LLaMA, GPT-3/4, LangChain, BERT, Hugging Face Transformers, Retrieval-Augmented Generation
Machine Learning & Predictive Modeling: Logistic Regression, Linear Regression, Decision Trees, Random Forest, XGBoost, Gradient Boosting, KNN, LSTM, RNN, CNN, Time Series Forecasting, Model Tuning & Evaluation
Data Engineering & MLOps: Data Pipelines, ETL Development, Data Integration & Modeling, CI/CD Pipelines (GitHub Actions), Model Deployment and Monitoring
Cloud Platforms: AWS (SageMaker, Lambda, EC2), Azure Machine Learning, Cloud Storage, DataOps Tools
Data Visualization & Reporting: Power BI, Tableau, Google Data Studio, Matplotlib, Seaborn

EXPERIENCE

Morgan Stanley| Data Scientist | AI **Feb 2024 – Present | USA**

- Constructed Contributed to development of LLM-based pipelines using GPT-4, LangChain, BERT, and vector databases to support automated financial document summarization and knowledge retrieval workflows, processing 10K+ documents monthly.
- Assisted in building Retrieval-Augmented Generation (RAG) workflows for document classification and summarization, helping reduce manual review effort by ~20% and improving information accessibility for internal teams.
- Developed machine learning models for anomaly detection supporting monitoring of 50K+ financial transactions per day, improving identification of unusual activity.
- Built Python-based predictive risk models analyzing 4,000+ client portfolios, enabling faster internal risk assessment and reducing analysis turnaround time.
- Applied deep learning frameworks such as PyTorch and TensorFlow to develop behavioral analytics and recommendation models across large customer datasets (100K+ records).
- Supported containerization of machine learning applications using Docker and participated in CI/CD workflows, helping streamline deployment processes and improving release consistency.
- Developed API-driven analytics services and collaborated with cross-functional teams to integrate model outputs into dashboards tracking 5–8 operational KPIs.

LTIMindtree | Data Scientist **Jan 2021 – Jul 2022 | India**

- Developed machine learning applications for e-commerce analytics including risk detection, recommendation systems, and customer behavior modeling.
- Built NLP pipelines using Transformer-based models to process customer feedback, support data, and unstructured text sources.
- Designed time-series forecasting systems for demand planning and inventory optimization using statistical and deep learning approaches.
- Implemented recommendation engines using collaborative filtering and deep learning models integrated into production workflows.
- Developed REST APIs and deployed ML services using FastAPI, Docker, and MLflow for real-time inference and monitoring.
- Created automated data pipelines and feature engineering workflows supporting scalable model training and evaluation.
- Built anomaly detection systems using PyTorch-based models to identify unusual transaction and operational patterns.
- Delivered analytical dashboards connected to SQL data warehouses enabling operational and product decision support.
- Constructed anomaly detection systems using **PyTorch** to monitor unusual purchases, returns, and refunds, flagging **300–500 suspicious orders per month** and improving fraud detection precision.

ACADEMIC PROJECT

Student Behavior Modeling in Online Learning Environment | *Python (Pandas, NumPy), SQL, ETL pipeline development, feature engineering, data cleaning, Gradient Boosting, LSTM, PyTorch, Scikit-learn, predictive modeling, model evaluation (accuracy, F1-score), simulation, risk scoring.*

- Processed EMI transaction data from **1,500 s**imulated student loan accounts using **Python (Pandas, NumPy)** and **SQL**. Created ETL workflows to clean and engineer features such as payment history, credit scores, and repayment patterns for **predictive modeling**.
- Implemented machine learning models using **Gradient Boosting** and **LSTM (PyTorch, Scikit-learn)** to predict delayed EMI payments one month ahead. Evaluated **accuracy** and **F1-score**, and generated risk scores to demonstrate interventions in simulations.

EDUCATION

Master of Science in Information Systems | University of Maryland Baltimore County, Baltimore, MD
Bachelor of Engineering in Computer Science Engineering | Rashtrasant Tukadoji Maharaj University Nagpur, India

Publications & Research

- **Powering Decisions with Machine Learning** — Co-Author (2026)
- **SQL for Data-Driven** Analytics — Co-Author (2026)
- Research Publication: **Early Detection of Anxiety and Depression Using Large Language Models** on Clinical Texts and Patient Journals