

Avirat Belekar

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EXPERIENCE

Data Scientist, Senior Associate

Feb 2023 – Present

Bank of New York

New York, NY

- Developed Python-based multimodal LLM (Gemini Flash) pipelines for contact centers, analyzing 10000+ calls monthly to identify call intent and vulnerable customers, enabling tailored support and resolving 400+ extra cases
- Built a T5-based Hugging Face model to classify and quantify chatbot user utterances, identifying top-searched categories, cutting response times by 40 seconds, and improving result relevance
- Proposed and implemented a scalable ground-truth framework for LLMs, using PromEval and VertexAI notebooks producing metrics to compare successive model versions, optimize 20+ prompts, and cut costs by 15%
- Spearheaded creation of data gatekeeping pipelines integrated with GitLab CI/CD, incorporating metrics tracking, auditing, and alerting mechanisms to mitigate LLM hallucination-induced skewness
- Led monitoring of 150 production services to ensure secondary data center reliability during disaster failovers

Data Scientist, Associate

Aug 2021 – Feb 2023

Bank of New York

New York, NY

- Created time-series anomaly detection tool with multi-model (Facebook Prophet, Robust Covariance) framework to predict application metric anomalies and deliver informative alerts, reducing triage time by 2+ hours per incident
- Migrated anomaly detection models and 10+ Oracle databases to GCP via BigQuery APIs, minimizing single-source reliance; developed FastAPI endpoints with RBAC to execute DDL operations
- Piloted a POC for a call transcription tool, processing and loading 100K+ records via API into MongoDB, transforming data using Pandas, and validating call transcript accuracy with stakeholders, driving tool adoption
- Mentored 8 interns on company services, applications, data engineering best practices, and delivered keynote session on 'AI/ML in financial services' at a talent development summit

Data Engineer, Intern

Jun 2020 – Dec 2020

Bank of New York

New York, NY

- Designed data cleaning pipelines and FastAPI endpoints to support an artifact discrepancy tracking dashboard for 100+ banking applications, enabling visualization of remediation timelines
- Contributed to process optimization by utilizing GitLab and Docker containerization (Kubernetes), cutting deployment times by 40% and enhancing CI/CD pipelines to streamline development-to-production transitions

PROJECTS

Research Paper Relevance Classifier | *Python*

Jan 2020 – May 2020

- Conducted feature engineering using attributes like citation trends, publication dates, and keywords to classify research papers as outdated or relevant, achieving an F1-score of 85% with Naive Bayes
- Evaluated multiple classification models with rigorous hyperparameter tuning, improving performance by 30% and enabling accurate identification of outdated research.

Employee Attrition Prediction Model | *Python, SQL*

Aug 2019 – Dec 2019

- Built predictive classification models in Python to analyze employee attrition and termination, achieving 75% accuracy with Random Forest to support data-driven workforce management.
- Used SQL for data preprocessing and Python with libraries like Pandas and NumPy for cleaning and feature selection, improving model reliability and interpretability

EDUCATION

Stevens Institute of Technology

Hoboken, NJ

Master of Science in Computer Science

Aug 2019 – May 2021

Mumbai University

Mumbai, India

Bachelor of Engineering in Computer Science

Aug 2015 – July 2019

TECHNICAL SKILLS

Languages: Python, SQL, MongoDB

Frameworks: Pytorch, FastAPI, HuggingFace, Tensorflow

Developer Tools: Gitlab, Docker, Kubernetes, Google Cloud Platform (Bigquery, Gemini, Vertex), Apache Kafka