

# Atharva Bapat

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## SUMMARY

Data Scientist specializing in LLM-driven application development with hands-on experience in AWS Bedrock, Hugging Face, and LangChain. Proven ability to prototype, deploy, and optimize GenAI tools, in fintech use cases. Passionate about transforming raw data into intelligent systems through prompt engineering, few-shot learning, and real-world deployment.

## SKILLS & INTERESTS

**Skills:** SQL, Python, FastAPI, Streamlit, Hugging Face OCR (LayoutLM), Data Validation, PostgreSQL, Prompt Engineering, Data Visualization, Generative AI, Unstructured Data Analysis, Agile Collaboration.

## EDUCATION

**University of North Carolina at Charlotte** **Charlotte, NC**  
*Master's Degree in Computer Science* *Graduation Date: May 2024*

## WORK EXPERIENCE

**Theoremlabs Partners LLC** **Charlotte, NC**  
*Programmer Analyst* *Sep 2024 - Present*

- Designed and deployed serverless architectures using AWS Lambda, Step Functions, API Gateway, S3, SQS, and SNS, improving scalability and reducing operational costs.
- Automated CI/CD pipelines with Git, Jenkins, and CloudFormation, streamlining deployments and decreasing release failures.
- Developed a Microsoft Copilot bot that leverages the company's advisory data to intelligently answer financial advisors' questions, streamlining information access and improving decision-making speed by 60%.
- Leading the design and implementation of SQL views to provide stakeholders with increasing insight accessibility by 40% facilitating more informed business strategy development.

**Persistent Systems** **Pune, India**  
*Software Developer* *Jan 2022 - Jun 2022*

- Built intuitive React + TypeScript dashboards integrated with AWS APIs to enable dynamic data retrieval and visualization, supporting infrastructure observability and decision-making.
- Implemented AWS API Gateway over AWS Lambda API to securely fetch data based on user-selected time ranges, ensuring privacy and enabling flexible, dynamic data retrieval tailored to specific needs.

## PROJECT EXPERIENCE

### LLM-Based Natural Language Querying for Databases

- Developed a state-of-the-art NLP chatbot using AWS Bedrock foundation models, enabling users to perform natural language based CRUD operations on a PostgreSQL database.
- Enhanced user autonomy and reduced dependency on technical teams, significantly improving data accessibility and decision making efficiency.
- Improve the model's performance on custom database schema by applying few-shot learning and prompt engineering techniques to tailor model responses based on stored schema knowledge and query context.

### Anomaly Detection using Machine Learning

- Designed real-time anomaly detection system using Isolation Forest and DBSCAN to identify API failures, latency spikes, and anomalous user behaviors within streaming event data.
- Implemented rolling statistical analyses and ensemble ML models for enhanced detection accuracy, applicable in fraud detection and IT security monitoring.
- Applicable in healthcare, fintech, e-commerce, IT security, and telecom to proactively detect anomalies and prevent potential issues.

### DocumentIQ: Intelligent Financial Document Process

- Built an automated pipeline using Hugging Face's LayoutLM to extract structured data from scanned government and financial documents (e.g., tax forms, KYC).
- Built an interactive Streamlit UI for document upload and review, with a FastAPI backend handling OCR processing, data validation, and database integration.
- Streamlined document processing workflow and reduced manual data entry by 80%, enabling faster access to critical financial information.