MOHAK CHUGH

Software Engineer at Amazon

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Work Experience

Amazon   Gurugram, Haryana, India · Hybrid

Software Development Engineer 2 – **[Level 5]**   10/2024 – Present

- Worked on Developing APIs to vend out Amazon Financial data for Transactional and Non-Transactional collections use-cases with **100% reconciliation** coverage.
  Used: AWS EMR (spark), AWS Big Data, APIGateway, AWS Lambda, DynamoDB

Software Development Engineer 1 – **[Level 4]**   12/2022 - 09/2024

- Developed **Spark** based **Big Data reconciliation engine with multiple data source support reconciling 1 billion+ records daily**. Provides capabilities to reconcile between SQL and No-SQL data sources with custom hooks for integration with data pipelines. This solution reconciles **100% of internal financial data** flowing through a central data lake.
- Led the creation of an award-winning **RAG-based LLM QnA bot, engaging 300+ users** and processing 5K questions daily; leveraged advanced prompting techniques and guardrails, resulting in **93% accuracy** from rich text documents
  Used: LLM ClaudeV2.1, AWS cloud, Streamlit, DynamoDB, PostgreSQL (RDS), ECS Fargate, Airflow

Data Engineer 1 – **[Level 4]**   09/2021 - 12/2022

- Engineered AI-driven headcount management tools by leveraging **100+ work driver datasets**, enabling precise ML models for scalable headcount predictions; boosted operational efficiency by forecasting resource allocation with **95% accuracy**. Integrated functionalities like email notification systems, auth management and ML data pipeline orchestration using **Airflow**.
- Launched e-invoicing compliance for Amazon by enabling VAT IDs encryption for Brexit, AU, CA regions, impacting **3,000+ global vendors.**
- Collaborated with senior data engineering teams on a re-architecture of our financial analytical mesh data-lake with database consolidation, automating schema-level data sharing across Redshift clusters. Designed and developed to **ensuring SLAs of 1 sec is met**. Authored with **90% test coverage**. Deployed efficient, secure solution, enhancing org productivity with security reviews for **critical data storage**.
- Mentored 3 interns and got 2 converted to full time engineers.
  Used: Airflow, Redshift, AWS EMR (spark), AWS Serverless, CI-CD pipelines, AWS Big Data

Education

Maharaja Surajmal Institute of Technology

· Bachelor of Technology - Computer Science | 8.7 | University Rank 3 in Final year   08/2017 - 12/2021

Publications

Benchmarking geospatial database on Kubernetes cluster — Analysis and Optimizations of PostgreSQL/PostGIS in Kubernetes for improved geospatial query performance.

Generative AI Q&A chat assistant using Amazon Bedrock — Built a custom RAG based QnA system for a niche use case which gave accuracy of 86% as compared to 49% from of the shelf tools

Languages and Skills

Work Domains:	AWS Cloud (**Development** and **Deployment** for **Serverless** and Server based solutions), Applied Artificial Intelligence - **LLM RAG** Architecture and Natural Language Processing (**NLP**), **Big Data** (Analytical and Transactional) and Advanced System Design on AWS
Languages:	Python, Java, NodeJS, Angular, **Advanced SQL**
Tools and Technologies:	API Development, Distributed Systems (**Spark**) and Data pipeline management via **Airflow**, Data Structures and Algorithms

Projects

DroneDash
https://mohakchugh.github.io/website/#/dronedash

· An Online Web Interface for surveillance in large scale construction sites. Supports up to 8 livestreams at once. Currently being used by Aditya Birla Group.

ContentCollab
https://mohakchugh.github.io/website/#/blogger

· A real-time online document editor that allows a group of users to collaborate on webpage contents, see and make changes in real-time.

Achievements

1st Runner's up in Digital India Makeathon
· Certificate Link: https://drive.google.com/file/d/1YEMPcosx8COkOxqFn3vXHiugsIIhkZMX/view

Soft Skills Certification from AICTE
· Certificate Link: https://drive.google.com/file/d/1aBjeD3gCGHphhdfNAyZrXADcOZyBjLQ-/view

University Rank 3 in BTech Final year
· Certificate Link: https://www.linkedin.com/feed/update/urn:li:activity:7055093560970256384/