

MOHAK CHUGH

Software Engineer at Amazon

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Work Experience

Amazon

Gurugram, Haryana, India · Hybrid

10/2024 – Present

Software Development Engineer 2 – [Level 5]

- Developed APIs to serve Amazon Financial data for Transactional and Non-Transactional collections use-cases with **100% reconciliation coverage**.
- Worked on employee data to power employee segmentation for payroll use-case, ingesting more than **10TB data per day**, vending out at more than **1000 TPS** via APIs

Used: AWS EMR (spark), AWS Big Data, APIGateway, AWS Lambda, DynamoDB, Scala, Hadoop, Glue, Athena, Spark, Advanced SQL, Python, AWS Step Functions, AWS DMS, AWS Lambda

Software Development Engineer 1 – [Level 4]

12/2022 - 09/2024

- Built a **Spark-based big data reconciliation engine** capable of processing over **1 billion records daily** across **SQL and NoSQL sources**, ensuring **100% coverage** of internal financial data flowing through the central data lake. Enabled seamless integration with data pipelines via custom hooks.
- 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. This was published in AWS Blog posts as one of the first AI blogs in Amazon

Used: LLM ClaudeV2.1, AWS cloud, Streamlit, DynamoDB, PostgreSQL (RDS), ECS Fargate, Apache Airflow, Agentic AI, Python, Lambda, Vector Knowledge Bases, OpenSearch (Elastic Search), Embedding Models, LLM Fine Tuning

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 engineers to re-architect the **financial analytical mesh data lake**, consolidating databases and automating schema-level data sharing across Redshift clusters. Designed and delivered a secure solution meeting **1-second SLAs, achieving 90% test coverage** and improving organizational productivity through efficient, security-reviewed data storage.

Mentored 3 interns and got 2 converted to full time engineers.

Used: Airflow, Redshift, AWS EMR (spark), Scala, Hadoop, Glue, Athena, AWS Serverless, CI-CD pipelines, AWS Big Data, AWS S3, AWS Glue and Lake Formation, Amazon Quicksight, Apache Hive, Apache Airflow, Apache Presto

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 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/#/drondash>

- Developed 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.

Tech Stack: NodeJS, Angular 8.0, RTMP servers, GCP

ContentCollab

<https://mohakchugh.github.io/website/#/blogger>

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

Tech Stack: NodeJS, Angular 8.0, Websockets APIs, What you see is What you get (WYSIWYG) Editors

Achievements

1st Runner's up in Digital India Makeathon

- Certificate Link: <https://drive.google.com/file/d/1YEMPcosx8C0kOxqFn3vXHiugsllhkZMX/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/>