

# 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
- Developed APIs to serve 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, Scala, Hadoop, Glue, Athena
- 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  
**Used:** LLM ClaudeV2.1, AWS cloud, Streamlit, DynamoDB, PostgreSQL (RDS), ECS Fargate, Airflow, Agentic AI
- 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,

## 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/#/dronedash>
- 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/1YEMPCosx8C0kOxqFn3vXHiugsIIhkZMX/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/>