

Amritanshu Singh

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Solution-oriented software developer specializing in building robust backend solutions and web services. Seeking opportunities to use my skills in web development, problem-solving, and emerging technologies to drive impactful growth within a dynamic organization.

Work Experience

Backend Software Developer

Feb, 2022–Jan, 2023

GrouPot India Pvt. Ltd., Bengaluru, India

- Designed and built production grade Apollo GraphQL APIs using CypherQL for resolvers and Neo4j as the primary database.
- Built backend services from scratch for Help & Support and FAQ features, enhancing platform functionality and user experience.
- Led revamping of Dashboard service, by implementing architectural improvements like restructuring GraphQL schema, queries and mutations and remodeling significant portions of the Neo4j Database, optimizing and refining CQL query execution, resulting in a remarkable 400% performance boost, and streamlining codebase maintenance.
- Designed an efficient PostgreSQL database model, successfully migrating all transactional and consumer data from Neo4j to PostgreSQL, significantly improved the performance of the dashboard components.
- Utilized a range of AWS services, including Lambda functions, SQS and S3 bucket, etc., to build 6 notification channels for the consumer app. Ensured seamless delivery by leveraging CloudWatch for monitoring.
- Exposure: **Apollo GraphQL, NodeJs, Neo4j, CypherQL, AWS Services, PostgreSQL, Sequelize.**

Education

- Integrated Dual Degree (B. Tech + M. Tech) in **Mathematics and Computing, IIT (B.H.U)**, Varanasi (CPI: 7.41) **2021**
- Class 12th, Amity International School, East Delhi, Mayur Vihar **2015**

Skill and Technologies

- Languages and Frameworks:** C / C++, JavaScript, Node.js, Express, Apollo GraphQL, Jest, Supertest
- Databases and ORMs:** Neo4j, CypherQL, PostgreSQL, Sequelize
- Containerization Tools and Servers:** Docker, AWS Services (Lambda Function, SQS, S3 bucket, Event Bridge, etc.)
- Other:** Git/GitHub, Data Structures and Algorithms, jsonwebtoken, bcrypt, winston

Projects

- E-Commerce Management Project:** **June, 2023**
 - A **NodeJS** based backend app using **Express, PostgreSQL**. Features include user authentication, authorization (using **JWT tokens**), order and inventory management. Implemented **Sequelize ORM, Swagger** API documentation, **Jest/Supertest** for unit/integration tests. Utilized Node.js libraries like **bcrypt, express-validator, helmet, jsonwebtoken, winston**.
- String Similarity Project (C++):** **Jan, 2022**
 - Calculates the similarity ratio of two strings using **Levenshtein Distance Algorithm** and **Dice Coefficient Algorithm**. Used advanced OOPs concepts, and file handling. Identified **edge cases**, added **tests** by integrating the **GoogleTest** framework using **CMAKE** build tools.

Academic Projects and Papers

- THESIS - Time Delayed Neural Networks (TDNNs)- Training Algorithm for Speech Recognition** **2021**
 - Trained TDNNs using 8 well-known TDNN algorithms such as Back- Propagation, Fletcher Reeves Update, etc. against 200 samples, 50% to train and 50% to test. Used Otsu's thresholding method to extract features of spoken words.
 - Benchmarked the performance of these algorithms on parameters like word recognition accuracy, required time, epochs needed and performance function, Mean Squared Error (MSE).

Entrepreneurial / Non-Profit Venture

CMO, E-GO SMART VEHICLES PVT. LTD.

2018-2019

- Played a key role in incubating the start-up at MCIE, the incubation cell of I.I.T (B.H.U), Varanasi, driving its early-stage growth.
- Developed the business model; led marketing team of 5+ people, devised monetization strategies tailored to target segment.