SHUBHAM RAJ JOSHI

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EXPERIENCE

SDET 1 (ETL and Data Engineer)   May. 2024 - Present
UBA-Solutions   *Lalitpur, Nepal*

- Designed, developed, and maintained scalable **ETL pipelines** using tools like **Apache Airflow, Python, and SQL**, automating data ingestion from diverse sources (e.g., APIs, flat files, RDBMS, cloud buckets).

- Orchestrated data workflows to **clean, transform, and enrich data** for analytics and reporting, ensuring high data integrity and quality.

- Built end-to-end data pipelines on **AWS** using services such as **AWS Glue**, **Lambda**, **Step Functions**, and **S3**, ensuring reliability and performance at scale.

- Wrote modular, reusable, and testable **Python code** for data transformation, enrichment, and validation processes.

- Reduced ETL processing time by **40%** by migrating batch workloads to serverless AWS architecture.

- Developed and maintained Python-based tools for backend processes, including ETL tasks, automation scripts, and data processing, leveraging libraries like Flask and Pandas for API development and data manipulation.

- Maintained data integrity and lineage using tools like **AWS Glue Data Catalog** and implemented logging and alerting with **SNS + CloudWatch Alarms**.

- Integrated **message brokers (RabbitMQ/Kafka)** to support real-time data streaming and asynchronous processing of event-driven data.

- Engineered data sync solutions between **Shopify** and internal systems, extracting product, order, and customer data using **Shopify Admin APIs**, transforming and pushing it to **data lakes and analytics dashboards**.

- Developed custom **Algolia indexing pipelines**, transforming and syncing product metadata, tags, and search attributes from internal databases to **Algolia** for real-time search optimization.

- Collaborated Utilized AWS S3 Buckets for scalable storage and managed file uploads/downloads, leveraging AWS SDK for seamless integration with other services.

- Configured and integrated OpenSearch and Elasticsearch for advanced search capabilities, enabling efficient data indexing and query performance within the system.

- Monitored and visualized logs and performance metrics using **Kibana** to track system health and optimize services based on data insights.

- Integrated RabbitMQ and Redis Streams for real-time message processing and queue management, enabling scalable event-driven architectures and asynchronous task handling.

- Implemented Jenkins for continuous integration and continuous deployment (CI/CD) pipelines, automating the build, test, and deployment processes for efficient software delivery.

- **Worked with** microservices architecture, designing and implementing services that communicate via RESTful APIs and message queues, ensuring the scalability and modularity of the application.

- Collaborated with team members on system architecture, contributing to the design and development of RESTful APIs, microservices, and modular backend services using modern frameworks like Node.js with Typescript .

- Focused on optimizing backend performance by applying principles of scalability, maintainability, and clean code practices in all development processes.

- Optimized SQL queries for relational databases, improving performance by using techniques such as indexing, query refactoring, and reducing unnecessary joins and subqueries.

- Worked with MongoDB to design, manage, and optimize NoSQL queries, ensuring efficient data retrieval and processing by implementing indexing and aggregation techniques.

Software Engineering Intern   Feb. 2024 - June. 2024
UBA-Solutions   *Lalitpur, Nepal*

- Automated GitHub workflows using GitHub Actions to streamline code deployment, testing, and integration across environments.

- Build **Intern Management System** for company with team and deployed the project. ([Repo](#))

- Implemented Docker, Kubernetes and CI/CD in development and deployment process, for development, testing, and production.

- Integrated continuous integration (CI) and continuous deployment (CD) pipelines with GitHub Actions for automated testing and deployment to staging and production

- Worked extensively in Node.js and TypeScript, building backend services and microservices, ensuring type safety, and writing clean, maintainable code.

- Developed and maintained Python-based tools for backend processes, including ETL tasks, automation scripts, and data processing, leveraging libraries like Flask and Pandas for API development and data manipulation.

- Utilized TypeORM for database management in a Node.js environment to interact with PostgreSQL, implementing CRUD operations, migrations, and handling complex queries.

Full-Stack Developer Intern   Dec. 2023 - Feb. 2024
Code Himalaya   *Lalitpur, Nepal*

- Learned and Implemented technologies such as Node.js, React.js, MongoDB and PostgreSQL.

- Followed industry standards such as writing clean code, testing and debugging.

- Implemented API integrations with GraphQL.

- Wrote unit and end-to-end test cases using Jest.

- Developed and optimized RESTful **APIs** and microservices using Nest.js, ensuring high performance and scalability of backend services.

- Utilized TypeORM for database management in a Node.js environment to interact with PostgreSQL, implementing CRUD operations, migrations, and handling complex queries.

SKILLS

- **Programming Languages**:

  - Java, JavaScript, TypeScript, Python, Go (Golang)

- **Frameworks**:

  - React.js, NestJS, Express.js, Node.js, Next.js , Vue Js

  - Django , Flask, FastApi

  - Spring Boot, Spring Security

  - Fiber (Go Framework)

- **Database**:

  - MongoDB, MySQL, PostgreSQL, MariaDB, SQLite , Redis , Neo4j , CockroachDB

- **DevOps and Cloud** :

  - AWS Services (EC2, S3, Lambda, RDS, DynamoDB, API Gateway, CloudWatch, IAM), Docker, Kubernetes, Jenkins , Serverless Framework, Helm

- **Testing Frameworks**:

  - Unit Testing, Integration Testing, End-to-End (E2E) Testing with Jest, Mocha, Chai, Supertest , Selenium ,

- **Search and Analytics :**

  - Elasticsearch, OpenSearch, Kibana , Apache Kafka , Logstash , Prometheus

- **Version Control and CI/CD and Project Management Tools**:

  - Git/GitHub, GitLab, Bitbucket, Jenkins, GitHub Actions , Jira, Trello, Asana

- **AI/ML Technologies** :

  - Pandas, NumPy, Scikit-learn, TensorFlow, Keras , AWS SageMaker , Apache Airflow

- **ETL** :

  - ETL Processes, Data Integration, Data Transformation, Data Pipelines, Apache Airflow, Talend, Data Warehousing, Data Quality, ETL Monitoring

- **Miscellaneous**:

  - WebSockets, GraphQL, gRPC, Microservices Architecture

EDUCATION

Bachelors in Computer Science and Information Technology   **2023-Present**
(B. Sc.CSIT)
Tribhuvan University, Kathmandu

+2 in Science (Physics and Maths)   **2020-2022**
CCRC, Balkumari, Kathmandu

PROJECTS

Seamless Integration of LLMs Across Modal Interfaces

- This project demonstrates the seamless integration of Large Language Models (LLMs) across multiple modal interfaces. It enables users to interact with various models—including OpenAI, DeepSeek, Ollama, and others—through a user-friendly frontend built with React and TypeScript. The backend utilizes Node.js, RabbitMQ, Redis, and NGINX to facilitate smooth communication and dynamic model switching.

- Link: Repo : (https://github.com/SubhamJoshi18/AI-Web-Scrapper-LLM)

JSON Compare DeepSeek AI

- **JSON-Compare-DeepSeek-AI** is a specialized tool designed to compare and analyze JSON data structures using the capabilities of DeepSeek AI. It allows developers and data engineers to efficiently identify differences, mismatches, or updates between two or more JSON files. This tool leverages DeepSeek's advanced language model to provide intelligent insights, semantic matching, and structured comparisons, going beyond simple key-value checks. It's ideal for use in data validation, ETL processes, API response testing, and system integration debugging.

- Link: Repo : (https://github.com/SubhamJoshi18/JSON-Compare-DeepSeek-AI)

CodePulse AI Powered Developer Motivation Bot

- **CodePulse – AI-Powered Developer Motivation Bot** is an intelligent companion designed to boost developer productivity, motivation, and mental well-being. Powered by advanced AI, CodePulse delivers personalized encouragement, coding tips, focus strategies, and wellness reminders based on your development patterns and daily progress. Whether you're tackling complex bugs or pushing through long coding sessions, CodePulse helps you stay energized and positive.

- Link: Repo : (https://github.com/SubhamJoshi18/CodePulse-AI-Powered-Developer-Motivation-Bot)

Ride App Backend Using Microservice

- **Ride App Backend Using Microservices** is a scalable and modular backend architecture designed to power ride-hailing or transportation applications. Built with a microservices approach, the system breaks down core functionalities—such as user management, trip booking, real-time location tracking, payments, and notifications—into independent, loosely coupled services. This ensures better scalability, fault tolerance, and ease of deployment across distributed environments.

- Link: [Repo : (https://github.com/SubhamJoshi18/Ride-App-Backend/tree/Rides-Microservice-Logic)](https://github.com/SubhamJoshi18/Ride-App-Backend/tree/Rides-Microservice-Logic)

Uber Microservice Using Proxy Server

- The **Uber Microservice** architecture is designed using **Node.js, Express.js, Nginx**, and **RabbitMQ** to ensure scalable, high-performance, and fault-tolerant communication between microservices. This backend is built to handle critical Uber-like functionalities such as ride booking, payments, real-time tracking, and notifications, while RabbitMQ serves as the message broker to ensure smooth communication between services.

- Link: [Repo : (https://github.com/SubhamJoshi18/Uber-Pathao-Microservice.git)](https://github.com/SubhamJoshi18/Uber-Pathao-Microservice.git)

Pet Aid Backend

- Pet Aid Backend is a powerful **Node.js & Express.js** API designed to streamline pet care services. It enables users to manage pet profiles, track medical history, book veterinary appointments, and receive emergency assistance..

- Link [Repo : (https://github.com/SubhamJoshi18/Pet-Aid-Backend.git)](https://github.com/SubhamJoshi18/Pet-Aid-Backend.git)

Custom-Redis-Server

- Custom-Redis-Server is a project where you've built a custom Redis server using TypeScript, enabling all standard Redis commands to function seamlessly. It utilizes a TCP connection to communicate between the Redis server and a Node.js module over HTTP, providing a robust and efficient setup for managing Redis operations in a custom environment. This solution offers flexibility and control over Redis interactions while ensuring smooth performance and scalability.

- Link: [Repo : (SubhamJoshi18/Custom-Redis-Server)](SubhamJoshi18/Custom-Redis-Server)

Intern Management System

- **Intern Management System** is a project that combines React.js with TypeScript for the frontend and Node.js for the backend, backed by MongoDB for data storage. The application provides an efficient system for managing interns, including tracking their tasks, progress, and other relevant data. The entire setup is containerized using Docker, ensuring easy deployment and scalability while maintaining smooth integration between the frontend and backend components.
- Link: [Repo : (SubhamJoshi18/Intern-Management-System-IMS-)](#)

Nginx Reverse Proxy From Scratch

- **Nginx Reverse Proxy from Scratch** is a comprehensive guide to setting up and configuring **Nginx** as a reverse proxy for your backend services. This solution ensures improved security, load balancing, and streamlined traffic management for your applications. By acting as an intermediary between clients and your server, it handles incoming requests and forwards them to the appropriate service or server, optimizing performance and enabling greater scalability.

- Link: [Repo : (https://github.com/SubhamJoshi18/Nginx-Reverse-Proxy-From-Scratch.git)](https://github.com/SubhamJoshi18/Nginx-Reverse-Proxy-From-Scratch.git)

Complete E-Commerce API For Frontend

- Complete E-Commerce API is a robust backend built with Node.js, TypeScript, and MongoDB, offering essential e-commerce features like user authentication, product management, and order processing. It provides RESTful endpoints for seamless integration with frontend applications.
- Link: [Repo : (https://github.com/SubhamJoshi18/Complete-E-Commerce-Subham)](https://github.com/SubhamJoshi18/Complete-E-Commerce-Subham)

Code Reviewer Elastic with RabbitMQ & Elasticsearch for AI

- **Code Reviewer Elastic** is a powerful AI-powered code review system that integrates **RabbitMQ** for message queuing and **Elasticsearch** for efficient code searching and indexing. Built with **Python**, this system leverages AI models to automate and enhance the process of code review by providing smart recommendations, error detection, and insights on code quality.

- Link: [Repo : (https://github.com/SubhamJoshi18/Code-Reviewer-Elastic.git)](https://github.com/SubhamJoshi18/Code-Reviewer-Elastic.git)

Mero Hostel Mate

- **Mero Hostel Mate** is a smart, AI-driven platform designed to help users find the best hostels based on their preferences and needs. By leveraging **K-Nearest Neighbors (KNN)** algorithm for intelligent search and recommendations, **RabbitMQ** for real-time message processing, and a stack of **Node.js**, **React**, and **MongoDB**, this project provides an efficient, fast, and user-friendly experience for those seeking the ideal place to stay.

- Link: Repo : (https://github.com/SubhamJoshi18/Mero-Hostel-Mate-Code-Fest.git)

AWS S3 Bucket From Scratch

- **AWS S3 Bucket From Scratch** is a comprehensive guide to setting up and managing **Amazon S3 Buckets** for storing, retrieving, and organizing your data. With this project, you'll learn how to integrate **AWS S3** with your applications, whether it's for image storage, backup solutions, or document management, all while utilizing AWS's robust features like security, scalability, and reliability.

- Link: Repo : (https://github.com/SubhamJoshi18/AWS-S3-Bucket-From-Scratch.git)

Instagram Working Flow Backend

- **Instagram Working Flow Backend** is a powerful, scalable backend system designed to replicate the core functionality of **Instagram**. Built with **Node.js**, **Express.js**, and integrated with databases like **MongoDB** or **PostgreSQL**, this project focuses on managing user accounts, posts, comments, likes, and real-time features like notifications and direct messaging. This backend mimics the working flow of an Instagram-like application, providing essential services required for a social media platform.

- Link: Repo : (https://github.com/SubhamJoshi18/Instagram-Working-Flow-Backend.git)