

Sujan Chhetri Poudel

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PROFILE

Software Engineer –Passionate Innovator – Continuous Improver

Software Engineer with nearly three years of experience as a Full-Stack Developer, skilled in building scalable web applications and microservices using modern JavaScript and TypeScript frameworks like React.js, NestJS, and Express. I have contributed to impactful projects across EdTech and e-commerce, combining technical expertise with cross-functional collaboration. Passionate about continuous learning and innovation, I am now seeking advanced academic study in Australia to deepen my knowledge in intelligent systems and software engineering, and to contribute meaningfully to both academic and professional communities.

EXPERIENCE

Innovate Tech Pvt. Ltd.

Software Engineer

Kathmandu, Nepal

August 2024 – Present

- Designed and implemented a real-time **audio-to-text synchronization** system by integrating **OpenAI Whisper**, significantly improving accessibility across diverse educational platforms.
- Contributed to the deployment of a **Retrieval-Augmented Generation (RAG) chatbot** by integrating LLMs with internal data sources, improving contextual user support, and increasing retention.
- Architected and deployed a highly scalable **microservices-based system**, introducing the **API Gateway pattern** to replace a monolithic architecture, resulting in improved system scalability and independent team deployments.
- Developed and maintained a scalable system deployed in 10+ countries, serving over 15 million users with a strong emphasis on availability, performance, and reliability.
- Built an **event-driven tracking system** using **WebSockets and MongoDB**, enhancing real-time analytics and user engagement through improved monitoring capabilities.
- Reduced backend response times by implementing asynchronous task handling with **BullMQ and Kafka**, decoupling compute-heavy tasks such as media processing and batch notifications.
- Strengthened platform security by integrating virus scanning and file validation systems into the upload workflows, reducing file-related vulnerabilities by over 40%.
- Proactively led and mentored a backend sub-team in the development of an **HRM employee tracking system**, ensuring timely delivery of production-ready features through agile sprints.
- Introduced advanced database performance strategies including **materialized views, Redis caching**, and query tuning, leading to significantly faster data retrieval on high-traffic endpoints.
- Conducted comprehensive **unit testing with Jest**, performance/load testing using **K6**, and integrated automated testing workflows into the CI/CD pipeline to uphold code reliability across services.
- Developed real-time **session tracking modules** using MongoDB, enhancing analytics granularity and enabling personalized in-app experiences.
- Implemented monitoring and alerting infrastructure using **AWS CloudWatch, Grafana**, and **Prometheus**, enabling proactive incident response and reducing system downtime.
- Migrated legacy frontend applications to a modern tech stack using **React.js, RTK Query**, and reusable SCSS-based components, enhancing maintainability and providing a unified user experience.
- Automated the release lifecycle by configuring **GitLab CI/CD pipelines**, significantly reducing manual deployment effort and ensuring consistent delivery to staging and production.
- Co-engineered a high-traffic **E-commerce platform** with frontend state management using **RTK Query** and backend services developed in **NestJS** with **PostgreSQL**, supporting tens of thousands of concurrent users across multiple regions.

Associate Software Engineer

June 2023 – August 2024

- Migrated multiple TV-related projects within an **NX monorepo architecture** from **Express to Fastify**, significantly enhancing modularity and achieving over 30% improvement in response performance across services.
- Refactored monolithic backend services into independent **microservices** using **gRPC** for inter-service communication and event-driven patterns with **RabbitMQ**, ensuring high availability and seamless scalability.
- Redesigned and integrated secure, multi-region payment workflows using **Stripe and PayPal APIs**, resulting in reduced transaction latency and a 25% decrease in payment-related support tickets.
- Developed a real-time event notification system by replacing AWS SQS + Lambda with a more performant **RabbitMQ and WebSocket**-based solution, improving delivery speed and achieving over 99% message delivery accuracy.
- Built and deployed a high-volume **bulk parser AWS Lambda function** to ingest, validate, and store large CSV datasets efficiently, reducing manual workload and accelerating administrative workflows.
- Contributed to multiple education-focused products such as **My Second Teacher**, deployed across 10+ countries, ensuring localization support, performance optimizations, and consistent user experience at scale.
- Utilized **React.js, RTK Query, and SCSS** to modernize legacy frontend modules, building reusable components and improving frontend performance and developer productivity.
- Integrated advanced cloud-native solutions using **AWS** (EC2, S3, Route 53, ELB, Aurora, Lambda, IAM, etc.) to ensure secure, reliable, and scalable deployment of services.
- Improved DevOps automation by using **Docker, Kubernetes (EKS)**, and GitLab CI/CD for container orchestration and continuous deployment, minimizing downtime and manual interventions during releases.
- Worked closely with cross-functional teams to introduce observability tools like **CloudWatch and Grafana**, and implemented structured logging with **Winston**, enabling proactive monitoring and debugging.
- Mentored junior developers and collaborated with QA and product teams to deliver features aligned with user needs, ensuring code quality, readability, and maintainability across multiple projects.
- Continuously refined architectural knowledge by contributing to internal design discussions and participating in R&D initiatives related to **distributed systems, system design, and event-sourcing patterns**.

Full Stack Developer Trainee

Dec 2022 – June 2023

- Promoted from intern to trainee, contributing over 6 months to frontend and backend projects with rapid learning and consistent performance.
- Led migration of the back-office admin panel to Version 2 using **React Query**, enhancing data handling and user experience for internal teams.
- Developed and maintained multiple frontend admin dashboards to improve operational workflows and internal application control.

Full Stack Developer Intern

Aug 2022 – Dec 2022

- Contributed to the development of an internal hiring management system by implementing **Single Sign-On (SSO)** using **Keycloak** across frontend (**React**) and backend (**Express, Node.js**).
- Optimized **MongoDB** schema and queries to improve performance and streamline candidate data management.
- Built multiple **React** views focused on recruitment workflows, enhancing HR team efficiency and data accessibility.
- Gained hands-on experience with full-stack development, applying best practices in frontend and backend environments.

EDUCATION

BSc (Hons) in Computing - First Class Honours (Top of the Faculty 81.67%)

London Metropolitan University, London, UK — March 2021 – September 2023

SLC in Science - A+ (Top of the School 3.89 GPA)

Liverpool International Secondary School, Kathmandu, Nepal — July 2017 – August 2019

TECHNOLOGIES

Programming Languages: TypeScript, JavaScript, Python, Java (Academic proficiency), Rust, HTML, CSS

Databases: MongoDB, PostgreSQL, MySQL, Chroma DB

Frontend Technologies: React.js, Next.js, React Query, RTK, SCSS, Material UI, Tailwind CSS, Shadcn/ui, Bootstrap

Backend Technologies: Node.js, Express.js, Nest.js, Fastify, Prisma, TypeORM

API Web Services: REST (Express, Fastify, Nest), GraphQL (Apollo), gRPC (grpc.js), MQTT, SQS, Kafka, Socket.io

Containerization Orchestration: Docker, Kubernetes (k8s)

Caching Proxy: Redis, Nginx

Cloud Platforms: AWS

Version Control & CI/CD: Git, GitHub, GitLab, GitLab CI, GitHub Actions

Runtime Environments: Node.js, Deno.js

Architecture Patterns: Microservices, Monolithic

Testing & Quality Assurance: Jest, Cypress, K6, Lighthouse

Additional Tools & Skills: OpenAI Whisper (AI Tools), Security Best Practices, Design Patterns, Jira, Trello, Asana, Slack

PROJECTS

TTS Backend (Text-to-Speech System) - Rust (Tokio), Piper, OpenAI Whisper, AWS

- * Engineered a backend service that converts text to speech using Piper and processes audio metadata via OpenAI Whisper for speech-to-text highlighting.
- * Leveraged Rust for high performance and concurrency, achieving low-latency streaming and efficient audio handling.

My Second Teacher - React.js, Node.js, MongoDB

Link

- * Contributed to a multi-award-winning e-learning platform used across 51 countries, delivering scalable backend components and enhancing the user experience.

JelaJah Baca - React.js, Framer Motion, RTK Query

Link

- * Built an eLibrary system where users can read eBooks with features like multi-color highlighting, scribbling, and annotations.
- * Developed an intuitive React frontend with responsive design for a rich reading experience.

Kung Fu Quiz - React.js, NestJS, RTK Query, MongoDB

Link

- * Built an interactive quiz platform enabling users to create and participate in quizzes based on videos or non-video formats.

- * Developed backend features for quiz creation, video syncing, challenge management, and user scoring using NestJS and MongoDB.
- * Delivered the project end-to-end, including backoffice tools for admins to manage quizzes and users.

Home School Asia - React.js, RTK Query

Link

- * Developed a homeschooling platform for Cambridge IGCSE AS/A Level with features like interactive video lessons, eBooks, test papers, and revision notes.
- * Worked on implementing and optimizing payment models to support various subscription plans and secure transactions.
- * Developed and integrated a notification system for real-time updates using email and in-app alerts.

Ecommerce Platform - NestJS, TypeORM, PostgreSQL, React.js, RTK Query

- * Developed a complete ecommerce solution with product catalog, dynamic shopping cart, checkout flow, and admin dashboard.
- * Built scalable RESTful APIs with NestJS, handling complex relational data using TypeORM and PostgreSQL, with optimized queries for high performance.
- * Implemented a fault-tolerant payment system supporting Stripe, PayPal, Esewa, and Khalti with proper error handling and retries.
- * Designed event-driven queues for scheduled product updates and asynchronous order processing.
- * Implemented secure cookie-based authentication with JWT for user sessions.

Payment Microservice - Fastify, gRPC, Stripe, PayPal

- * Created a dedicated payment microservice to handle transactions via Stripe and PayPal.
- * Integrated gRPC-based communication to ensure secure and efficient interaction between services.
- * Designed fault-tolerant mechanisms and handled edge cases for real-world transaction workflows.

Notification Microservice - Fastify, RabbitMQ, Socket.IO, AWS SES







- * Developed a real-time notification microservice using RabbitMQ for message brokering and Socket.IO for WebSocket-based push notifications.
- * Implemented email delivery using Amazon SES to support transactional and event-driven email communication.
- * Built an event-driven system that supports multi-channel notifications (in-app, WebSocket, email) for maximum user reach and flexibility.

CERTIFICATIONS


Academic

- * Top of the Cohort


Web Development

- *  Express Essential Training
- *  Node.js Essential Training
- *  Node.js Essential Training: Web Servers, Tests, and Deployment
- *  Building RESTful APIs with Node.js and Express
- *  Building a Website with Node.js and Express.js
- *  Learning REST APIs

Database Management

- *  SQL Essential Training
- *  Learning MongoDB


Testing

- *  Learning End-to-End Testing with Jest


Cloud Concepts

- *  Introduction to AWS for Non-Engineers: 1 Cloud Concepts

Security

- *  Node.js Securing RESTful APIs

TypeScript

- *  Learning TypeScript

LANGUAGES

English: Full Professional Proficiency

Nepali: Native Proficiency

Hindi: Conversational (Speaking Only)