

Sudip Poudel

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Summary

Backend Engineer specializing in building scalable, multi-tenant systems using NestJS, TypeScript, and PostgreSQL. Experienced in designing event-driven architectures, implementing fine-grained access control (RBAC/ABAC), and optimizing API performance through caching and asynchronous processing.

Skills

Languages & Runtime: TypeScript, Node.js

Frameworks: NestJS, Express

Databases & ORM: PostgreSQL, MikroORM, TypeORM, Prisma

Architecture: RBAC, ABAC, Multi-tenancy, Event-driven systems

Tools & DevOps: Git, Docker, Redis, RabbitMQ, BullMQ, Azure VM, Jira

Other: WebSockets, OpenAPI (Swagger), Linux, Web technologies

Experience

Backend Engineer

Nov 2024 – Present

Blacktech Pvt Ltd., Pokhara, Nepal

RestroX (Restaurant Management System)

- Developed scalable backend APIs using NestJS and TypeScript
- Implemented Redis caching, reducing repeated database aggregations by 30%, and improving dashboard performance by 35%
- Built real-time updates using WebSockets for live operational tracking
- Designed and optimized PostgreSQL schemas and queries for scalability

Customer Relationship Management (CRM)

- Designed and implemented secure user authentication using JWT with RBAC and ABAC
- Built multi-tenant architecture ensuring strict data isolation across users and organizations
- Implemented audit logging to track system activity and critical state changes

Platform / Core Infrastructure

- Designed event-driven architecture using RabbitMQ for reliable asynchronous workflows
- Implemented background processing for long-running tasks and system events
- Containerized applications using Docker and managed deployments on Azure Virtual Machines

Backend Developer Intern

Aug 2024 – Nov 2024

Blacktech Pvt Ltd., Pokhara, Nepal

- Learned and applied NestJS architecture patterns (dependency injection, modular design)
- Developed semantic versioning and release notes API with strong type safety
- Integrated OpenAPI (Swagger) documentation for API clarity and maintainability

Projects

RentHub (Multi-tenant Rental Platform)

- Engineered scalable backend services using NestJS and MikroORM
- Designed RBAC and ABAC-based authorization for fine-grained access control
- Implemented background job processing with BullMQ for asynchronous workflows
- Built real-time updates using WebSockets for client synchronization
- Ensured secure multi-tenant data isolation across users and roles
- Improved maintainability through modular architecture and refactoring

Cleaning Management System (CMS)

- Developed RESTful APIs using NestJS, PostgreSQL, and MikroORM
- Implemented JWT-based authentication with RBAC and ABAC

- Integrated BullMQ for background job processing and task scheduling
- Built real-time features using WebSockets for operational updates
- Maintained API documentation using OpenAPI (Swagger)

Multi-tenant ERP System

- Contributed to backend development using Express, Prisma, and PostgreSQL
- Designed tenant-aware data models ensuring secure isolation
- Integrated Xero APIs for accounting and financial workflows
- Refactored legacy code and fixed critical bugs, improving system reliability
- Developed inventory management module supporting stock tracking and operations

Additional Projects: [RentHub Frontend](#), [CMS Mobile App](#), [Finance Tracker API](#)

Education

Bachelor in Software Engineering
Pokhara University

2021 – 2025