

Kusal Lamsal

Pokhara, Nepal

EDUCATION

Pokhara University

Bachelors in Software Engineering

Pokhara, Nepal

Graduation Date: **October 2023**

Relevant Courses: Programming in Java, C++, Operating Systems, System Programming, Artificial Intelligence and Neural networks, Web Technology, Simulation and Modeling, Mathematics I, II and III, Object Oriented Software Development

EXPERIENCE

YARSA LABS

Software Engineer

Pokhara, Nepal

November 2022– Present

Game Servers

- Designed and developed real-time game servers for multiplayer games like **Rummy** and **Ludo** which have over million downloads.
- Built the backend using **JavaScript**, **Redis**, and **MongoDB**, ensuring low latency and seamless real-time communication.
- Resolved race conditions using **Redis caching** and **MongoDB aggregation pipelines**, improving data consistency
- Integrated **Prometheus** and **Grafana** for real-time monitoring of user behavior and server performance.

YarsaPlay

- Developed a **multi-tenant game backend platform** using **NestJS for Backend** and **Remix Js for Frontend**
- Integrated **Casdoor** for multi-method authentication across customer, organization, and application levels.
- Conducted testing using **Postgres TestContainer** and **Jest Test** for backend validation and **Cypress** with the **Cucumber framework** for end-to-end testing

YarsaBazar.com

- Built **microservices architecture** for scalable backend services using multiple frameworks like **Bun js**, **golang** and **JAVA**.
- Used **Keycloak** for authentication and authorization and **PgNotify** for real-time database trigger handling.
- Created a custom on the fly image resizer delivering performance with single-digit millisecond latency.

Pasal.com

- Designed a **microservices-based architecture** for an fast e-commerce platform
- Utilized **Bun Js**, **Postgresql**, **Redis**, **Meilisearch Engine** for scalable and reliable services.
- Automated CI/CD pipelines using **Drone** for seamless deployments.
- Implemented a bulk notification service for email/SMS alerts and live order tracking updates.
- Performed unit and integration testing using **Postgres** and **Redis TestContainers** to ensure reliability in various environments.

NEPAL COPYRIGHT REGISTRAR'S OFFICE

Backend Engineer

Kathmandu, Nepal

May 2022–July 2022

- Worked on development of backend part of Copyright Application Portal, database design, multi step application verification
- Wrote documentation of all backend related routes with the help of swagger documentation and TSOA library.
- Worked on Node JS, Typescript, MySQL, Docker,

SAPTARISHI SCIENTIFIC

React Native Developer

Kathmandu, Nepal
December 2021–May 2024

- Worked on development of a cross platform application which goes by the name of [SabjiKothi](#).
- Worked on React Native and Nest JS project to build mobile and web applications.
- Done unit testing of backend part using Jest JS.
- Designed and implemented an onboarding automated system for devices, leveraging AWS IoT services for streamlining the process of device setup by automatically creating AWS IoT devices, certificates, and policies, significantly reducing manual intervention and improving efficiency.

Hajurbuwa.com

Full Stack Engineering Intern

Kathmandu, Nepal
August 2021– December 2021

- Contributed to the development of a comprehensive **dashboard** with **live delivery tracking**, enhancing user experience and real-time updates.
- Designed and implemented **backend APIs** for efficient data handling and seamless integration with the dashboard.
- Utilized **Next.js with Chakra UI, Express.js, PostgreSQL, and TypeORM** to build a robust and scalable system.

PROJECTS

Pathology lab management and Billing Software

- Designed a comprehensive desktop application for pathology labs, streamlining patient management and test handling.
- Utilized Electron JS, React JS, and Tailwind CSS to develop a user-friendly interface and experience.
- Implemented Prisma and SQLite for efficient database operations, ensuring data accuracy and security.
- Currently used by a local clinic in the Rambazar-Nayagaon area for managing pathology lab and day to day clinic operation.

Event Booking Application

[Event](#)

- Designed an intuitive event booking platform utilizing **Next.js**, and **Supabase** for interactive seat booking and real-time data management.
- Implemented **Shadcn UI** for a modern user interface and **Tailwind CSS** for a responsive design.

Learnify Mobile Application

[Learnify](#)

- Developed "Learnify" as a final-year bachelor project, a user-friendly mobile application with discussion forum, quiz history tracking and incorporating quiz and reading material generation through OpenAI LLM,
- Helps students access educational resources and engage in interactive learning through a user-friendly platform.
- Leveraged NestJS, PostgreSQL, TypeORM for the backend, and Next.js with Tailwind CSS for the dashboard, React native for mobile application with Sentry for error tracking, ensuring a polished user experience for the academic project.

German WheelScout Project

- Worked with mentors from Hochschule Darmstadt University of Applied Sciences
- Made in house dynamic to build a Load Balancer to route requests from different geographical regions to corresponding servers
- Used by the German WheelScout Project for displaying shortest wheelchair routes to differently abled users
- Used JAVA Spring boot to design system architecture and scale the application

CONTRIBUTIONS

- Contributed to Casdoor, an open-source authentication and authorization solution, by fixing bugs and improving type definitions.
- Workshop Instructor, NestJS Workshop, CSIT Association of Nepal, Pokhara

TECHNICAL SKILLS

- **Programming Languages:** Javascript, Java, C, C++, Python, PHP, Go, TypeScript, SQL, NoSQL
- **Frameworks and Libraries:** NodeJS, Socket.io, ReactJS, React Native, NestJs, GraphQL, MongoDB
- **Technologies:** GNU/Linux, Git, Docker, AWS, DigitalOcean, Azure, XAMPP
- **Project Management:** AGILE, JIRA, GitHub