

Pramesh Karmacharya

Lead Engineer · Leapfrog Technology

Bhaktapur, Nepal
prmszhk@gmail.com
+977 9869346025

SUMMARY

Lead Engineer with 9+ years of experience designing and delivering scalable, high-performance web applications. Skilled in Node.js, Go, Python, PHP, React and GenAI technologies, with a proven ability to architect robust backend systems, AI-driven solutions and intuitive frontends. Currently driving the company-wide AI SDLC framework at Leapfrog Technology, partnering with teams across projects to embed AI into their delivery process for a 3x productivity boost measured by story points. Brings strong collaboration, mentoring and communication skills, and a commitment to continuous learning.

TECHNICAL SKILLS

Languages: Go, TypeScript, JavaScript, Python, PHP, HTML5, CSS3

Frameworks & Libraries: Node.js, Express.js, NestJS, Next.js, React, Zustand, Tailwind CSS, Laravel, FastAPI, GoFiber, Chi, Gin, HTMX, Templ

GenAI: RAG, MCP, AWS Bedrock, AWS Strands, Qdrant, Mem0

Databases: PostgreSQL, MongoDB, MariaDB, CockroachDB, DynamoDB, DocumentDB

AWS: EC2, S3, RDS, Lambda, ECS, ECR, API Gateway, CloudWatch, X-Ray, OpenSearch

Tools & Practices: Docker, Git, GitHub, GitLab, Jira, Slack, Scrum

PROFESSIONAL EXPERIENCE

Leapfrog Technology

Charkhal, Kathmandu

Lead Engineer

Jul 2026 — Present

- Drive the AI SDLC framework for company-wide adoption, defining how teams use AI across planning, development, testing, code review and delivery.
- Partner with cross-functional teams and projects to embed AI into their SDLC, tailoring workflows and tooling to each team's process.
- Delivered a 3x productivity boost on projects, measured by story point throughput.
- Set technical direction and architecture standards across projects, reviewing designs for scalability, security and cost.
- Mentor and grow engineers through design reviews, pairing and career coaching.
- Define engineering quality gates, including AI-assisted code review, testing and documentation practices.
- Work with delivery managers and stakeholders on estimation, planning and technical risk.
- Evaluate emerging AI tools and models, turning the useful ones into shared guidelines and reusable templates.

Senior Software Engineer

May 2025 — Jun 2026

- Led the development of RAG-based chatbots with conversational memory and spearheaded a presales AI agent built on AWS Strands.
- Implemented an AWS serverless architecture for the MCP RAG Starter Kit, enabling scalable, cost-efficient AI-powered applications.
- Directed project architecture and technical strategy, mentoring junior developers on scalability, performance and maintainability.
- Designed backend systems in Python, Node.js and Go with Next.js frontends, integrating DynamoDB and DocumentDB.
- Oversaw deployments on AWS ECR, ECS, EC2 and Lambda for smooth, reliable production releases.

- Ran company-wide training on AI development tools for developers and QA engineers, and partnered with the People team on hiring.
- Upheld code quality and security through code reviews, performance profiling and protection against SQL injection, XSS and other vulnerabilities.
- Collaborated with designers, QA engineers and project managers to align technical solutions with business goals.

Ekbana Solutions

Jwagal, Lalitpur

Senior Software Engineer

Mar 2019 — Apr 2025

- Led the technical direction of projects and mentored junior developers.
- Designed application architecture, choosing technologies and frameworks for scalability and performance.
- Built backend APIs in Node.js and PHP backed by PostgreSQL and MongoDB.
- Shipped backend and frontend applications with Next.js, NestJS, Go and GoFiber.
- Profiled and optimized application performance.
- Implemented security best practices against SQL injection and XSS attacks.
- Kept code clean and maintainable through regular code reviews, and shared new technologies with the team.

Crystal Infosys

Tikathali, Lalitpur

Software Engineer

May 2017 — Jan 2019

- Wrote clean, maintainable PHP and fixed bugs in existing codebases alongside senior developers.
- Wrote and maintained server-side code in Node.js and JavaScript.
- Contributed to code reviews and managed codebases with Git.
- Worked with designers and project managers to deliver projects on time and within budget.
- Provided technical support to end users in development and production.

EDUCATION

Master of Business Administration (MBA)

Expected Sep 2027

Lincoln University · IIMS College · Gairidhara, Kathmandu

BSc in Computer Science and Information Technology

May 2019

Tribhuvan University · Orchid International College · Bijaychowk, Kathmandu

MAJOR PROJECTS

Travel AI Assistant

FastAPI · React · RAG · Qdrant · Tavily MCP · AWS Bedrock · Claude Sonnet · Amazon Nova Pro

A GenAI app that plans personalized travel itineraries using RAG chatbots and real-time internet search, then emails the finished plan to the traveler.

- Led API development with FastAPI and built responsive UI components in React.
- Implemented the RAG chatbot on Qdrant for accurate, context-aware itinerary answers.
- Integrated real-time internet search through the Tavily MCP server.
- Combined LLM output, vector retrieval and live search to generate itineraries automatically.
- Used Amazon Nova Pro and Claude Sonnet via AWS Bedrock for generation and conversation.
- Added validation, error handling and logging for reliability.

Presa Presales Agent

AWS Strands · Claude Sonnet 4 · Tavily · Mem0 · RBAC

An AI agent that streamlines presales for account managers, project managers and tech leads: requirement analysis, competitive research, architecture discovery, user story mapping and timeline estimates.

- Led end-to-end development of backend APIs and frontend components.
- Built the memory module with Mem0 so context carries across presales sessions.
- Implemented secure, role-based authentication for sensitive presales data.
- Integrated AWS Strands, Tavily and Claude Sonnet 4 for recommendations, architecture suggestions and estimates.
- Worked with stakeholders to align AI workflows with business needs.

Nepal Electricity Authority

Express.js · Go · BullMQ · Firebase · OTP

A platform where customers check and pay monthly electricity bills in the app and track their daily, weekly and monthly consumption.

- Built the API services and CMS with Express.js.
- Wrote a concurrent Go service to process around 50 million offline billing records.
- Delivered new-bill notifications through Firebase, queued with BullMQ.
- Implemented OTP delivery and verification.

PickleZone

NestJS · React · PostgreSQL · RabbitMQ · Jest · Docker · AWS EC2 · S3

A platform for pickleball players to track scores in real time and organize singles and doubles teams for best-of-three or best-of-five matches.

- Designed the API service architecture with the CQRS pattern in a NestJS monorepo.
- Built the CMS portal with React.
- Used PostgreSQL geofencing to track players within a court's radius.
- Used RabbitMQ for Firebase push notifications, activity logging and analytics.
- Wrote unit tests with Jest and end-to-end tests for the CMS services.
- Stored media in S3, containerized with Docker and deployed on AWS EC2.

Salvi Task Management

MQTT · Keycloak · OpenID Connect · React · Lerna · Firebase · PM2

Tracks faults in IoT street lamps in real time. Lamps publish issues over MQTT, operators assign them from a live dashboard, and technicians resolve them from a mobile app.

- Designed the system architecture as a Lerna monorepo for code reuse across services.
- Implemented single sign-on with OpenID Connect through Keycloak.
- Implemented MQTT for real-time communication with devices and services.
- Built frontend services in React and mobile push notifications with Firebase.
- Deployed the services with PM2.

Goth Starter

Go · Chi · GORM · HTMX · Templ · Tailwind · DaisyUI

A CMS starter built entirely on the Go ecosystem, with server-rendered UI, authentication and role-based permissions.

- Designed the codebase and architecture on the Go standard library, with Chi for routing.
- Used GORM for database access and HTMX with Templ for rendering.
- Implemented authentication and a role-based permission system.
- Added localization with Go's i18n tooling.
- Wrote unit tests for services and modules, and themed the UI with Tailwind and DaisyUI.

MyPlace

[Vue.js](#) · [PostgreSQL](#) · [Google Drive API](#) · [Rakumo](#)

A real estate management app for tracking properties, leases, tenants and payments in one place.

- Built the EUC module in Vue.js to manage property data and generate reports.
- Used PostgreSQL views and materialized views for data management.
- Integrated the Google Drive API to organize documents per property.
- Integrated third-party APIs such as Rakumo.

Yeti Airlines

[Laravel](#) · [SOAP](#) · [Social Login](#) · [Google Analytics](#)

A flight booking app for reservations, schedules, check-in details and real-time flight tracking.

- Built the API service and CMS.
- Integrated the Avantik flight management SOAP API.
- Implemented social login with Google, Facebook and Apple.
- Integrated the Laravel Google Analytics SDK.

IFA

[OneLogin SSO](#) · [Azure AD](#) · [Redis](#) · [Data Visualization](#)

A web app that helps financial advisors build and manage investment portfolios for their clients.

- Implemented single sign-on to the existing core application with OneLogin.
- Used Azure Active Directory for user management and authorization.
- Cached APIs with Redis.
- Built charts and graphs to visualize portfolio data.