

BINOD PARAJULI

Experienced Backend Developer and DevOps Engineer with 6+ years of expertise in building scalable, high-performance applications using Python, Django, and FastAPI. Strong in REST API development, system design (HLD/LLD), database modeling, and performance optimization. Proven experience in cloud deployment on AWS and containerization with Docker. Adept at designing scalable architectures, automating workflows, and collaborating with cross-functional teams to deliver reliable, production-ready solutions.

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WORK EXPERIENCE

Dark Matter Game Production Pvt. Ltd

Senior Backend Developer | DevOps Engineer

Nov 2025 – Aug 2026

NobiGo — Japanese Language Learning Mobile App (Duolingo-style)

Live App: [Play Store \(Android\)](#) | [App Store \(iOS\)](#)

- Developing the backend for NobiGo, a gamified Japanese language learning mobile app inspired by Duolingo, covering JLPT levels (N5–N1) with structured lesson paths, hiragana/katakana scripts, kanji modules, and adaptive difficulty.
- Architected and built RESTful APIs using FastAPI and async SQLAlchemy on PostgreSQL, supporting high-concurrency mobile traffic with sub-200ms typical response times.
- Designed a level-based path-locking system that progressively unlocks lessons, modules, and JLPT concepts based on user mastery and scoring thresholds.
- Implemented a JLPT scoring engine with flexible 45% pass thresholds, detailed evaluation reports, and concept-level repetition tracking to drive personalized learning.
- Built a comprehensive JLPT mock test module simulating real exam conditions across N5–N1 levels — timed sections, randomized question pools, accurate JLPT-grade scoring, section-wise (Vocabulary/Grammar/Reading/Listening) breakdown, and post-test analytics with weak-area recommendations.
- Built community features including community posts (text/image/video), groups with shared learning paths, leaderboards, streaks, and engagement/retention loops.
- Integrated Celery + Redis for asynchronous background jobs (notifications, video transcoding via FFmpeg, scheduled streaks, evaluations, and onboarding pipelines).
- Designed and operated Redis caching strategies for trending content, leaderboards, JLPT level distributions, and user state to reduce DB load.
- Containerized the entire stack (FastAPI, Celery worker, Celery beat, Postgres, Redis) with Docker and docker-compose, deployed to AWS EC2 with Elastic IP for stable staging access.
- Built end-to-end CI/CD pipelines on GitHub Actions: automatic semantic versioning from conventional commits, multi-tag GHCR image builds, SSH-based zero-downtime deploys with health checks and automatic rollback for production via ASG rolling updates.
- Implemented secure authentication (JWT), role-based access control, rate limiting, and a subscription-tier system for premium features.
- Collaborated with mobile (Flutter) and design teams to evolve API contracts, OpenAPI docs, and Figma-driven feature specs across rapid release cycles.

Bichitras Group Pvt Ltd

Senior Backend Developer | DevOps Engineer

March 2025 - Nov 2025

E-Commerce Module

- Built an online shopping system with product listings, carts, and secure payments (Khalti/Esewa).
- Added vendor features such as store setup, order tracking, and commission tracking.

Real-Time Chat & Messaging

- Created instant private messaging with read receipts, typing indicators, message reply, presence system, message read and unread count.
- Integrated live chat across different parts of the app using RabbitMQ.

Live Streaming Features

- Implemented a virtual gifting system with secure coin transactions.
- Built real-time PK battles with live scoring and automatic winner calculations.

Performance Optimization

- Used Redis to enhance performance for user levels, trending videos, and gift animations.

Sampark Softwares Pvt Ltd

Python Developer

Feb 2020 - Dec 2024

- Architected and deployed scalable API solutions, automating data exchange processes, increasing website uptime by 25%, and reducing error rates by 30%.
- Designed and implemented middleware for roles and permissions management, enhancing modular handling and notification systems.
- Improved data protection and security, creating innovative user information solutions to ensure system integrity.
- Maintained and optimized large databases, performed server configuration, and reduced software maintenance expenses through collaborative efforts.
- Designed and managed a new CMS using Django, leveraging Django ORM for efficient database interactions.
- Developed and maintained RESTful APIs and microservices for scalable and efficient communication across platforms.
- Collaborated on CI/CD pipeline setup to automate builds, testing, and deployments for faster delivery cycles.
- Containerized applications using Docker by creating Docker images and optimized cloud deployment processes.
- Managed and deployed scalable applications on AWS EC2 instances, ensuring high availability and optimized performance.
- Designed and implemented secure data storage solutions using AWS S3, including lifecycle policies to optimize storage costs.
- Integrated AWS Identity and Access Management (IAM) for secure access control and permissions management.
- Implemented backup and recovery solutions using AWS S3 and Glacier, ensuring data durability and disaster recovery.
- Collaborated with cross-functional teams to gather requirements, design Power BI dashboards, and deliver data-driven solutions aligned with business objectives.

PROJECTS

Stockone Warehouse Management System (PAN India)

- Designed a comprehensive Warehouse Management System (WMS) for Stockone Technologies, enhancing visibility into inventory and managing supply chain operations.
- Streamlined warehouse processes by implementing modules for Masters, Inbound, and Outbound operations, and enabled efficient inventory tracking with the Stock Locator module.
- Contributed to the Production module by defining BOMs and automating the conversion of raw materials into finished goods via job orders.

- Developed and managed robust APIs for seamless integration with third-party software, enabling real-time data exchange and order management.
- Utilized AWS services like EC2, S3, and CloudWatch for scalable application hosting, secure data storage, and system performance monitoring.
- Containerized the application using Docker to simplify deployment and ensure consistent environments across development, testing, and production.
- Designed comprehensive reporting tools, providing actionable insights into warehouse operations.
- Played a key role in automating and securing critical processes, driving efficiency, and scalability in warehouse management systems.

Nepolive

- Developed an integrated live-streaming system with real-time chat, virtual gifting, and audience interaction features.
- Built a TikTok-style short video (Reels) module with uploads, comments, and CDN-powered delivery for optimized streaming.
- Implemented interactive in-app games (Slot, Mines, Dice) linked to a virtual currency system for user engagement.
- Designed and deployed real-time PK battles between streamers with live scoring and automated reward allocation.
- Created a virtual economy using coins and diamonds for gifting, games, and premium platform features.
- Established WebSocket-based communication for live chats and private messaging.
- Leveraged Redis caching for trending content, user levels, and active session management.
- Integrated a multi-role user system (users, streamers, vendors, admins) with Role-Based Access Control (RBAC).
- Built an admin dashboard for content moderation, revenue tracking, and analytics-driven insights.

SKILLS

- **Backend Development:** Python, Django, FastAPI, REST API, ORM, MySQL, PostgreSQL, SQL, NoSQL, async/await
- **System Design & Architecture:** High-Level & Low-Level Design (HLD/LLD), Scalable API Design, Database Schema Design, Microservices Architecture, Caching Strategies (Redis), Asynchronous Processing (Celery, RabbitMQ), Authentication & Authorization (JWT, OAuth), Real-time Systems (WebSocket's), Performance Optimization
- **Frontend Development:** React, JavaScript, AngularJS, jQuery
- **Cloud & DevOps:** AWS (IAM, EC2, VPC, ASG, S3, RDS, CloudWatch, CloudFront, ECS, EKS, ECR, Secrets Manager, SG/NACL, Route53, CloudFormation, Lambda), Docker, docker-compose, GitHub Actions CI/CD, GHCR, Nginx, Linux server administration
- **Data Science & Analytics:** Machine Learning, Power BI, Pandas, NumPy

EDUCATION

Bachelor of Computer Science
BVC Engineering College, India

April 2016 - Sept 2020