Arjun Prasad **Adhikari**

Backend Engineer · Python & AI

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Summary

Backend engineer with over 5 years of experience building scalable Python systems with Django, FastAPI, and PostgreSQL. I build the unglamorous middle layer the way a careful editor builds a sentence, one moving part at a time, with real-time data, optimized queries, and resilient APIs at the core. Lately I have been pulling generative AI into that work, RAG pipelines, MCP servers, and agent orchestration, while treating an LLM as another I/O boundary with all the failure modes that implies. A strong foundation in computer-science fundamentals lets me spot where AI-generated code is wrong and know exactly how to fix it, using the model as a tool rather than a crutch.

Work Experience

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Lalitpur, Nepal

Backend / AI Engineer — *Dec. 2023 - Dec. 2026*

- Owned the core of an AI data-analysis product end to end: an LLM agent that turns natural-language questions into validated, executed code and streams results back to users.
- Built an automated LLM evaluation framework from scratch, and improved answer accuracy and token cost through verify-and-retry loops, versioned and A/B-tested prompts, and leaner prompt context.
- Hardened authentication, file-upload, payment, and code-execution surfaces with stricter token validation, rate limiting, storage access controls, and a sandbox gate that screens generated code.
- Prevented billing leaks and race conditions by enforcing usage limits up front and fixing concurrency bugs, and resolved data-correctness defects across the analysis library with regression tests.
- Implemented WebSocket transport and LangGraph orchestration for real-time communication and function-calling workflows, improving system responsiveness by 30%.
- Optimized database queries, indexes, and Redis caching, reducing API response times by 40%; reviewed code regularly across the team.

Ideapreneur Nepal Pvt. Ltd.

Lalitpur, Nepal

Financial Data Engineer — *Nov. 2022 - Nov. 2023*

- Developed backend systems for 'Money Mitra', a Nepali stock-market application, with high-performance data processing and real-time analytics.
- Built market-data ingestion pipelines and trading-feature APIs with secure authentication and authorization mechanisms.
- Led and mentored junior developers ensuring successful project delivery.

RKD Group of Companies

Pokhara, Nepal

Systems Engineer — *May 2022 - Oct. 2022*

- Developed portfolio management system using Django and Odoo ERP addons for attendance management with ZKTeco integration.
- Ensured security and scalability through optimized authentication mechanisms.

Urja Lab Pvt. Ltd.

Pokhara, Nepal

Project Freelancer — *Sept. 2020 - Jan. 2022*

- Built Inventory Management system.
- Built ride sharing Backend.

Aankhi Jhyal Technologies

Pokhara, Nepal

Backend Developer Intern — *March 2020 - May 2020*

- Built IP Info Finder for finding user data(location, ISP etc.) based on IP Address.
- Built Monitor Server: A fully realtime websocket based remote client commanding app developed using React, Flask and Socketio.

Projects

MyFI

AI-Assisted Finance Tracker

- Voice-controlled personal finance tracker: log and query transactions by speaking, with an LLM in the loop that categorizes and explains spending.
- Exposes a Model Context Protocol (MCP) server so AI assistants can record, update, and summarize income, expense, and transfer transactions across accounts, categories, and tags.
- Tech: Python, Model Context Protocol (MCP), LLM, Voice Interface

RAG-based Chatbot

AI-Powered Enterprise Chatbot

- Retrieval-augmented chatbot wired into enterprise data sources for intelligent document Q&A.
- Tech: Python, RAG, FastAPI, Generative AI

NEPSE Real-time Data

Real-Time Analytics Platform

- Live analytics platform for the Nepal Stock Exchange streaming quotes, market depth, and indicators.
- Tech: FastAPI, WebSockets, Real-Time Data

pyBlaze

pyblaze.adhikariarjun.com.np

Interactive Python Code Editor

- Interactive online Python editor with step-by-step debugging and real-time execution for educational purposes.
- Tech: Python, Code Editor, Debugging, Educational

Django Blogging

arjun.name.np

Content Creator & Open Source Contributor

- Personal blog on Django and related technologies with long-form technical articles.
- Active contributor on DEV.to sharing software development insights.

Skills

Backend Development	Django Web Framework, Flask, FastAPI, RESTful API Development, WebSockets, Real-Time Applications, System Architecture, WebAssembly, Performance Optimization, Data Processing
Database & Data	PostgreSQL, MySQL, MongoDB, Redis, Database Design & Optimization, Query Plans, Indexing & Sharding, Time Series Analysis, Financial Data Modeling, Backtesting, Data Visualization
AI Engineering	Generative AI Applications, RAG Pipelines, Model Context Protocol (MCP) Servers, LangChain, LangGraph, Vector Databases, Agent Orchestration, LLM Evaluation (Evals), Token & Cost Optimization, Context Engineering, Prompt Versioning & A/B Testing, Verify-and-Retry Loops, Sandboxed Code Execution, AI-Driven Chatbot Development, Natural Language Processing
Observability	Distributed Tracing, OpenTelemetry, Log Pipelines, Metrics, LLM Observability
DevOps & Cloud	Git, GitHub Actions, AWS (EC2, S3, RDS), CI/CD Pipelines, Docker, Linux
Web Scraping & Automation	Scrapy, Playwright, Browser Automation, Networking and Proxies, BURPSuite
Software Engineering	Data Structures, Object Oriented Programming, Design Patterns, Database Design, Software Quality Assurance, Test-Driven Development, Code Review, Refactoring

Honors

2020 **Winner, GCES IT Coding Competition, GCES IT EXPO 2020,** Gandaki College of Engineering and Science — *Lamachaur, Pokhara, Nepal*

Education

Gandaki College of Engineering and Science

Lamachaur, Pokhara, Nepal 4050419 NP

Bachelor of Engineering in Software Engineering — *Nov. 2017 - Aug. 2022*

- Coursework in Data Structures, Algorithms, Database Design, and Optimization Techniques.
- Served as GCES IT CLUB president from November 2021 to August 2022

SOS Hermann Gmeiner School Gandaki

Rambazar, Pokhara, Nepal 4050415 NP

Grade VI - XII (Science)