

Rahul Adhikari

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Skills

- **Languages:** JavaScript (ES6+), **TypeScript**, **Python**, C++, Java, SQL
- **Frontend:** React.js, Next.js, HTML5, CSS3, Tailwind CSS, Redux
- **Backend:** Node.js, Express.js, **Python (FastAPI)**, REST APIs, WebSockets, Pydantic
- **Databases:** MongoDB, **PostgreSQL**, MySQL, Redis, SQLAlchemy ORM
- **Systems & DevOps:** Docker, Git, GitHub Actions, CI/CD, Linux
- **AI & Protocols:** Model Context Protocol (MCP), **FastMCP**, Prefab UI, LLM integration, PyPI package publishing
- **CS Fundamentals:** Data Structures & Algorithms, System Design, OOP, OS concepts

Experience

Software Engineer, Quantplay – Bengaluru, India Sept 2024 – Present

- Architected and shipped a **Model Context Protocol (MCP) server** using **FastMCP** and **Prefab UI** for Quantplay's trading API, enabling AI assistants (Claude, GPT) to query live broker data via natural language — adopted by **500+ developers** within 2 months of PyPI release (quantplay-mcp).
- Designed and implemented **3 core MCP tools** (get_accounts, get_positions, get_holdings) via FastMCP exposing real-time broker positions and portfolio data over a secure stdio transport; used **Pydantic** for schema validation and environment-scoped API key isolation.
- Built **FastAPI** microservice endpoints consumed by the MCP server, leveraging async request handling and **PostgreSQL** (via SQLAlchemy) for persisting account snapshots and trade history; supported live production deployments and triaged post-release issues to maintain service reliability.
- Built and optimized **React.js + TypeScript** frontend components for Quantplay Connect dashboard — multi-broker account management, live P&L analytics, and risk controls — reducing average page interaction latency by **~30%** through memoization and lazy loading.
- Collaborated with backend engineers in an **Agile sprint** environment on REST API integration, cutting frontend-to-API round-trip errors by **40%** through typed response contracts and centralized error handling.

Frontend Developer, Sroniyan Technology – Noida, India Oct 2024 – Oct 2025

- Delivered **3 client-facing POCs** end-to-end using React.js — translating Figma designs into production-ready, responsive interfaces with cross-browser compatibility across Chrome, Safari, and Edge.
- Engineered a gradient rendering pipeline for VS and VS add-ins with **LRU cache-based optimization**, reducing redundant render computations by **~45%** and improving frame rate on complex canvases.
- Improved QA workflow efficiency by **20%** by building an internal test harness (**Jest + React Testing Library**) that automated repetitive UI regression checks, cutting manual testing cycles per sprint.

Freelance Full Stack Developer, Self-Employed – India Oct 2022 – June 2023

- Built and deployed a **full-stack e-commerce platform** (React, Node.js, MongoDB) with cart, checkout, payment integration, and an admin dashboard managing **100+ SKUs**.
- Delivered an **agriculture B2C marketplace** enabling direct farmer-to-buyer sales, handling **50+ concurrent product listings** with image upload and order tracking.
- Managed full project lifecycle (requirements → deployment) for **3 clients**, maintaining 100% on-time delivery.

Projects

Quantplay MCP Server – Python, FastMCP, Prefab UI, PyPI, REST APIs

- Designed a production Python package exposing live trading data (accounts, positions, holdings) to AI assistants via the Model Context Protocol stdio transport; handles auth, error boundaries, and schema validation.
- Published to **PyPI** (pip install quantplay-mcp); integrated and tested with Claude Desktop as primary MCP client.

CodeSwear – Full-Stack E-Commerce Platform – React.js, Node.js, Express.js,
MongoDB, Tailwind CSS

[GitHub](#)

- Implemented JWT-based authentication, role-based access (admin/user), real-time cart state via Context API, and a dedicated admin panel with order lifecycle management.
- Designed RESTful API with **10+ endpoints**; optimized MongoDB queries with indexing, reducing average response time from **340ms to 95ms** under simulated load.

REST API Service with FastAPI & PostgreSQL – *Python, FastAPI, PostgreSQL, SQLAlchemy, Docker*

[GitHub](#)

- Built a production-grade async REST API using **FastAPI** with JWT authentication, role-based access control, and **PostgreSQL** (SQLAlchemy ORM + Alembic migrations) for persistent storage.
- Containerized the full stack with **Docker Compose** (app + postgres + redis); achieved **sub-50ms** median response time under 500 concurrent requests using async I/O and connection pooling.

Education

Kumaun University, Bachelor of Computer Applications (BCA)

Sept 2021 – May 2024

- CGPA: **7.9 / 10.0**
- Relevant coursework: Data Structures & Algorithms, DBMS, Operating Systems, Computer Networks, Web Development

Achievements

- **Hackathon Winner** – 1st place, Frontend Development category, college-level competition (Jan 2024); built a real-time collaborative whiteboard in 24 hours.
- **Open Source** – Authored and maintain `quantplay-mcp` on PyPI; **500+ installs**, listed in Quantplay's official developer documentation.
- **Cricket** – Selected for Uttarakhand Under-16 State Cricket Team; demonstrated leadership and performance under pressure.