Pavitar Rana

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Skills

Languages: **TypeScript**, Python, Go, JavaScript, SQL, Bash
Backend: **FastAPI**, **Node.js**, Express, PostgreSQL, Redis, **RabbitMQ**, MongoDB, TimescaleDB, SQLAlchemy, Prisma, REST, WebSockets
Infra & DevOps: **Docker**, **Kubernetes**, GitHub Actions, AWS (S3, ECR), GCP, Azure, Firecracker, KVM, Linux networking
AI: **LangChain**, LangGraph, DeepAgents, RAG pipelines, agent tooling and skills, OpenAI, Anthropic, and Gemini APIs
Frontend: Next.js, React, Tailwind CSS

Experience

Mayson Dec 2025 – Present
Early Backend Engineer *mayson.dev*

- Early engineer on a pre-seed AI platform that turns prompts into deployed full-stack apps; own the **FastAPI/PostgreSQL** backend and Kubernetes layer that generated apps and the AI agent build on.
- Built the background job system for generated apps: a **RabbitMQ** worker supervisor binding one handler to many queues, running each job in an isolated child process with memory caps, timeouts, and structured logs.
- Built multi-tenant **Redis** cache and **S3** object storage with per-tenant key namespaces, TTL ops, presigned URLs, and **Fernet**-encrypted credentials injected into per-app Kubernetes Secrets.
- Built integrations for AI-generated apps: Telegram webhooks, Google Drive/Gmail **OAuth2** with server-side token refresh, and SKILL docs plus APIs the agent reads to use them.
- Shipped WebSockets end to end (connection manager, nginx ingress, **KEDA** tuning), one-click app remix with SSE progress and per-tenant DB provisioning, SMS OTP auth; fixed bugs in Felix, the Go/RabbitMQ coding agent.

Tenc Jan 2024 – Nov 2024
Full Stack Developer (Backend & Infrastructure)

- Built and deployed backend-heavy AI apps for clients at a freelance firm with **Node.js**, **FastAPI**, PostgreSQL, MongoDB, and LLM integrations.
- Owned infra and DevOps: containerized services with **Docker**, shipped on **GCP** and **Azure** with CI/CD; mentored junior developers.

Axentia Aug 2023 – Jan 2024
Full Stack Developer

- Built an OCR-based AI math solver and a mental health assistant: Flask and Node.js APIs with OpenAI and **LangChain RAG** pipelines.

Projects

Fuse – MicroVM Sandbox Platform | *Firecracker, KVM, Node.js, TypeScript, PostgreSQL, Redis* GitHub

- E2B/Daytona-style sandbox runtime built from the hypervisor up: provisions isolated **Firecracker microVMs** over the Unix-socket API with per-VM rootfs and sub-second boots.
- Hand-built networking with raw **ip/iptables**: per-VM TAP interfaces, Linux bridge, NAT, host port mapping, deterministic MAC and IP-pool allocation.
- Multi-tenant REST control plane with API-key auth to create/destroy VMs, inject files, and run commands over SSH; **PostgreSQL** state, **Redis** tracking, **Next.js** dashboard.

Exness – CFD Trading Platform | *Node.js, Next.js, TypeScript, Express, WebSocket, TimescaleDB, Redis* Live

- Real-time CFD trading platform: live market data over WebSocket, **Redis Streams** feeding order and pricing pipelines, and high-frequency tick data aggregated in **TimescaleDB** for candle and history queries.

Chat Doc | *Node.js, PostgreSQL, Next.js, TypeScript, Gemini, Embeddings, Azure Blob Storage* Live

- Split-view PDF reader with Gemini Q&A over embeddings-based retrieval; Azure Blob caching and virtualized rendering for **300+ page** PDFs.

Education

Birla Institute of Technology & Science (BITS), Pilani Aug 2024 – May 2027
Bachelor of Science in Computer Science