

YAMANDEEP CHAUDHARY

DevOps Engineer | Backend Systems | Cloud Infrastructure | AI Automation

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SUMMARY

DevOps and Backend Infrastructure Engineer (B.Tech CSE, UIET MDU + BS Data Science, IIT Madras) with 1+ year of production experience deploying and operating containerized systems in a live legal-tech environment at IO2i Outsourcing. Hands-on with Docker (multi-stage builds, health checks), Linux server administration, AWS EC2 deployment, and Nginx edge-layer configuration (SSL/TLS termination, rate limiting, zero-downtime reloads). Built and operated multi-tenant, security-hardened backend systems (FastAPI, HMAC-SHA256, RBAC) with Prometheus-based observability and structured logging. Currently building IntentIQ, a self-healing AI browser-automation platform combining FastAPI, Playwright, and LLM-based reasoning — applying platform engineering and AI automation skills beyond the internship scope. Expanding into GCP, Azure, Kubernetes, and Terraform through the GeeksforGeeks DevOps Engineering Program and a Microsoft Azure Applied Skills credential.

EXPERIENCE

Software Engineer Intern — DevOps & Platform Engineering · IO2i Outsourcing Pvt. Ltd., Delhi Mar 2025 – Present

- **Containerization & Deployment:** Built and shipped multi-stage Docker images with automated health checks; standardized local development with Docker Compose; deployed and managed all backend services in production via Docker on Linux servers.
- **Nginx Edge Layer:** Configured SSL/TLS termination, rate limiting, connection pooling, and zero-downtime reloads as reverse proxy for production traffic, improving reliability of service rollouts.
- **Observability & Monitoring:** Rolled out Prometheus monitoring, structured logging, and request tracing across backend services, cutting troubleshooting time and improving production visibility.
- **Security & Multi-Tenancy:** Architected a multi-tenant B2B portal with HMAC-SHA256 tenant synchronization, OTP authentication, and role-based access control (RBAC), enforcing structural cross-tenant data isolation.
- **Infrastructure Automation:** Deployed trackmypost.in end-to-end on AWS EC2 behind Nginx; authored Bash scripts to automate deployment, container lifecycle management, and routine server operations.

Teaching Assistant · Coding Ninjas, Remote

Feb 2024 – Mar 2024

- Mentored learners in Python and Data Structures & Algorithms across two cohorts; led asynchronous Q&A and live debugging sessions.

PROJECTS

IntentIQ (Flagship Project) · Python · FastAPI · OpenAI · Playwright · BrowserUse · SQLite

- Built a self-healing AI browser-automation platform that records user workflows and converts them into reusable Blueprints — "teach once, run forever."
- Designed an intent-driven execution engine combining Playwright, BrowserUse, and LLM-based reasoning to adapt to UI changes at runtime.
- Implemented workflow recording, DOM event capture, YAML generation, and automated evaluation pipelines.
- Architected the Blueprint Engine, an Application Knowledge Graph (AKG), and adaptive selector mechanisms for resilient automation.
- Full build and architecture documented as an interactive walkthrough. [Case study →](#)

trackmypost.in · FastAPI · Docker · Nginx · AWS EC2 · Rust/Yew · WASM · PWA

- Public India Post tracking service. Built an async FastAPI backend deployed on AWS EC2 behind Nginx.
- Implemented a Rust/Yew WASM frontend with PWA capabilities (installable, offline-ready).
- Delivered full-stack cloud deployment lifecycle including domain, SSL, and containerization. [Case study →](#)

Resolution Desk v1.3.0 · Python · FastAPI · MySQL · Docker · Nginx · Zoom API

- Self-service Online Dispute Resolution (ODR) portal for legal cases with dual-format case ID auto-detection (LAN/ARB), OTP-based authentication, and QR-coded notices.
- Automated Zoom hearing scheduling; maintained 99%+ uptime with comprehensive data validation. [Case study →](#)

B2B Financial Institution Portal · FastAPI · Docker · Nginx · HMAC-SHA256 · Rust/Leptos · AWS EC2

- Multi-tenant dashboard for banks and NBFCs with host-based tenancy and HMAC-signed CA synchronization.
- Used ContextVar-based tenant configuration to structurally prevent cross-tenant data leakage. [Case study →](#)

Legal Meeting Automator · Python · Zoom API · Webhooks · Async I/O

- Event-driven system automating the legal hearing lifecycle: schedules secured Zoom meetings and a webhook listener captures recordings and dispatches them to attendees asynchronously. [Case study →](#)

TECHNICAL SKILLS

Production Experience

Cloud Platforms: AWS (EC2 instance setup, security groups, deployment; S3 basic storage; CloudWatch basic monitoring)

Containerization: Docker (multi-stage builds, health checks, image optimization), Docker Compose, container deployment & management on Linux

DevOps & Platform Engineering: Linux server administration, Bash scripting, Nginx (reverse proxy, SSL/TLS termination, rate limiting, connection pooling, zero-downtime reload), deployment automation

Backend Development: FastAPI (async endpoints, middleware, dependency injection), RESTful API design, Pydantic validation, async I/O

Observability & Monitoring: Prometheus, metrics collection, structured logging, request tracing, application visibility

Security: HMAC-SHA256, OTP authentication flows, RBAC, JWT, multi-tenant data isolation, SSL/TLS configuration

Version Control: Git, GitHub, branching strategies, pull requests, code review, collaborative workflows

Hands-On / Learning

Cloud Platforms: Azure (Container Apps — Microsoft Applied Skills credential); GCP (Compute Engine, Cloud Run, Cloud Storage, IAM, Cloud Monitoring/Logging, GKE concepts) via labs and personal projects

Container Orchestration: Kubernetes fundamentals — Pods, Deployments, Services, ConfigMaps, basic cluster concepts

CI/CD: GitHub Actions — workflow creation, build automation, deployment automation

Infrastructure as Code: Terraform fundamentals via labs and coursework

AI & Automation: OpenAI APIs, Playwright, BrowserUse, LLM-based reasoning pipelines, browser automation

Programming Languages: Python 3 (primary), Bash, TypeScript, Rust, C++, SQL

Frontend & Full-Stack: Rust (Yew, Leptos), WebAssembly, React, Next.js, PWA development

EDUCATION

B.Tech — Computer Science & Engineering · UIET, MDU Rohtak · 2022 – 2026

BS — Data Science & Applications · IIT Madras (Online) · 2023 – 2026

PROFESSIONAL TRAINING

DevOps Engineering Program (Offline) · GeeksforGeeks · Ongoing, 2026

- Topics: Linux Fundamentals, Docker, Kubernetes, Terraform, AWS, CI/CD, GitHub Actions, Monitoring & Observability.

CERTIFICATIONS

- [Microsoft Applied Skills: Deploy Cloud-Native Apps Using Azure Container Apps](#) — July 2026 · Credential ID: 90D296CA1A8DF129
- [Certificate of Excellence — Python Programming, Coding Ninjas](#)
- [Certificate of Excellence — Python DSA, Coding Ninjas](#)
- [Teaching Assistant Certificate, Coding Ninjas](#)

TECHNICAL WRITING

- [How I Accidentally Built a Self-Healing AI Agent — IntentIQ Architecture Case Study](#) (yamandeep.in/blog/intentiq-architecture · 15 min read)
- [Why I Rebuilt India Post Tracking in Rust and WebAssembly](#) — case study on trackmypost.in (6 min read)
- [Multi-Tenancy Without a Database: How ContextVar Isolation Works in FastAPI](#) — architecture breakdown (8 min read)