MOHAMMED SHAAD N

PYTHON BACKEND & FULL-STACK DEVELOPER

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PROFESSIONAL SUMMARY

Python backend and full-stack developer building deployed SaaS products and AI workflow automation systems. Hands-on experience with Django, FastAPI, PostgreSQL, Kafka and gRPC, including asynchronous execution, multi-tenant APIs and LLM integration. Deploys containerized services using Docker, Kubernetes (K3s) and GitHub Actions, with a focus on testing, security and reliable execution.

TECHNICAL SKILLS

Languages: Python, JavaScript, SQL

Backend & APIs: Django, Django REST Framework (DRF), FastAPI, SQLAlchemy, REST APIs, gRPC

Architecture & Messaging: Microservices, event-driven architecture, asyncio, Kafka, RabbitMQ, Celery

Databases & Search: PostgreSQL, Redis, Elasticsearch, pgvector, Alembic migrations

AI & Security: LLM integration, Retrieval-Augmented Generation (RAG), Model Context Protocol (MCP), JWT, OAuth 2.0, role-based access control

Frontend & Real-Time: React, Next.js, Tailwind CSS, HTML, CSS, WebSockets, Django Channels

Cloud & DevOps: Docker, Docker Compose, Kubernetes (K3s), Oracle Cloud (OCI), AWS (EC2, S3, RDS), Nginx, GitHub Actions, GitHub Container Registry (GHCR), Linux

Testing & Tools: pytest, load testing, Ruff, Bandit, pip-audit, Git

PROJECTS

Relay | AI Workflow Automation Platform

Live: relay.shaad.site | Code: github.com/shaad4/relay-workflow-automation

FastAPI, Next.js, PostgreSQL, Kafka, gRPC, Redis, Celery, pgvector, MCP, Docker, K3s, GitHub Actions

- Built and deployed a multi-tenant automation platform with **7 FastAPI microservices** and a Next.js frontend; used Kafka for workflow events and gRPC for internal service communication.
- Developed a PostgreSQL-backed asynchronous execution engine with bounded concurrency, atomic work claims, leases and heartbeats; persisted workflow versions, step outputs and execution state.
- Completed **100/100 workflows** at **55.61 workflows/minute**, with 0 failures in 107.90 seconds at concurrency 10. Measured in Docker Compose using a simulated 10-second HTTP delay per workflow (October 2026), not live LLM calls.
- Implemented exponential-backoff retries, idempotent event ingestion, dead-letter records and guarded failed-node replay to recover without blindly repeating external side effects.
- Integrated document ingestion and pgvector retrieval for RAG, LLM generation and decision nodes; connected HTTP, Gmail and human-approval steps into executable workflows.
- Built an MCP server exposing workflow management and execution to ChatGPT and Claude, protected by OAuth 2.0 permission scopes and workspace-level authorization checks.
- Deployed Dockerized services on Oracle Cloud with **Kubernetes (K3s)** on a single node, using Services, StatefulSets and persistent volumes for stateful components.
- Built GitHub Actions CI/CD for service tests, linting and security checks; configured **AMD64/ARM64** image publishing to GHCR and K3s deployment workflows.

PROJECTS (CONTINUED)

Groven | Multi-Tenant Client Management SaaS

Live: groven.in | Code: github.com/shaad4/groven-platform

Django, DRF, React, PostgreSQL, Redis, Celery, Channels, Stripe, Docker, AWS

- Built a Django/DRF SaaS platform for client onboarding and request management, with provider dashboards, React client portals, membership-based roles and tenant-scoped access.
- Implemented real-time chat and notifications using Django Channels, WebSockets and Redis; added Celery background jobs and AI-generated content summaries.
- Integrated Stripe billing with **2 subscription plans** and S3 file uploads; containerized the platform across **8 Docker services** and deployed on AWS EC2, S3 and RDS.

HireD | Driver & Trip Management Platform

Backend & Documentation Lead | Byte-Club buildathon | 5-member team

FastAPI, PostgreSQL, SQLAlchemy, Alembic, React, Flutter, Supabase, Geoapify, Docker

- Collaborated on an Admin Portal, B2B Partner Portal and Flutter driver app; implemented **21 management APIs** for admin accounts, companies, partner users and effective-dated payout splits.
- Implemented role- and company-scoped access, invitations, password setup and session handling; strengthened transaction and idempotency safeguards for trip, payroll and wallet workflows.
- Integrated private Supabase file storage and Geoapify location services; connected portal/mobile API flows and maintained API, migration, security and setup documentation.
- Contributed to backend regression and integration testing; the recorded October 2026 project verification passed **1,149 backend tests** with **91.35% statement coverage**.

MetUps | Real-Time Microservices Meetup Platform

Code: github.com/shaad4/metups-microservice

Django REST Framework, React, gRPC, RabbitMQ, Celery, Redis, Elasticsearch, Nginx, Docker

- Built independent Auth, Event, RSVP and Notification services with isolated data stores, gRPC verification and RabbitMQ event messaging behind an Nginx API gateway.
- Delivered WebSocket updates through Daphne/ASGI and Redis, plus asynchronous email notifications through a RabbitMQ-to-Celery bridge.
- Implemented Elasticsearch full-text search with debounced autocomplete and phrase-prefix matching; added Redis caching with automatic invalidation on writes.

EDUCATION

Bachelor of Computer Applications (BCA) | Calicut University | 2022 - 2025

PROFESSIONAL TRAINING

Self-Directed Software Trainee | Brocamp | Jun 2026 - Present

Project-based training in Python full-stack development, API design, distributed systems and deployment; practiced code review, sprint planning and iterative delivery.

ACHIEVEMENTS & LANGUAGES

Achievement: 3rd place, Codex Community Hackathon, Calicut.

Languages: English, Malayalam.