

Aqib Ali Ghumro

Applied AI & Backend Engineer

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PROFESSIONAL SUMMARY

Applied AI and backend engineer with 1+ year of professional software experience building RAG assistants, voice-agent workflows, AI video pipelines, and API-backed products. Hands-on with Python, FastAPI, Node.js, Vapi, OpenAI, LangChain/LangGraph, Whisper, YOLO/OpenCV, PostgreSQL, Chroma, and automated testing. Strongest at connecting model and tool workflows to validated backend services.

PROFESSIONAL EXPERIENCE

Software Engineer (Full-Stack) | Touchperia | Jul 2025 - Present | Karachi, Pakistan

- Owned backend logic and API integration across Makaanza (makaanza.com) and HairZone, translating product requirements into validated services, data workflows, mobile integrations, and testable edge-case handling.
- Built and tested a modular HairZone Express/TypeScript API with 31 documented route definitions across profiles, services, availability, appointments, payments, notifications, reporting, and media; integrated Stripe before switching to Tap Payments.
- Implemented booking lifecycle logic for scheduling conflicts, cancellations, payment failures, and notification updates across backend services and React Native.
- Built 7 HR modules and a GitLab CI/CD pipeline; reduced deployment time by approximately 20 minutes per release and supported AWS troubleshooting through CloudWatch and IAM.
- Wrote unit, integration, API, and Playwright end-to-end tests; collaborated with project managers and a senior reviewer on delivery, verification, and release readiness.

SELECTED PROJECTS

VoicePIs / Client CallCenterAI - Client Voice Automation Platform | Vapi | Node.js | Express | LangChain | Whisper | OpenAI | REST APIs | Live: www.voicepls.com

- Developed backend workflows for call handling, availability checks, booking, rescheduling, cancellation, human handoff, transcripts, and contextual call summaries.
- Integrated Vapi webhook events and function/tool calls with validated REST workflows, separating voice intent handling from backend execution.

Channel-IQ - AI Video Processing Platform | Python | Django | OpenAI | Whisper | YOLO | OpenCV | FFmpeg

- Built a pipeline that downloads long-form video, transcribes audio, selects highlights, generates short clips, applies face-aware framing and captions, and prepares SEO metadata for YouTube publishing.
- Reduced one-hour video turnaround from roughly 3-4 hours of manual editing to under 25 minutes on a GPU VM.

AI Document Assistant - Full-Stack RAG Application | Next.js | FastAPI | PostgreSQL | Chroma | OpenAI | Docker

- Implemented PDF, DOCX, TXT, and Markdown ingestion, organization-scoped authentication, embeddings in Chroma, document/folder/tag/date filters, grounding checks, and streaming SSE citations tied to source passages.

Football Video Analytics System - Working Prototype | Python | YOLO/Ultralytics | OpenCV | K-Means | Optical Flow

- Built a working pipeline for player, referee, goalkeeper, and ball tracking; team assignment; stable IDs; camera-motion correction; perspective transformation; speed/distance estimation; and annotated output video.
- In one diagnostic run, tracked 20 field-player tracks across 750 frames at 99.2%-100% stability, alongside goalkeeper and referee tracking.

Multi-Agent Customer Operations Platform | Next.js | FastAPI | LangGraph | LangChain | PostgreSQL

- Designed routed support, order-management, and analytics agents with shared state, structured tool calls, retries, and audit logging.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL

AI Systems: OpenAI API, Vapi, LangChain, LangGraph, RAG, Chroma, Whisper, YOLO, OpenCV, FFmpeg

Backend: FastAPI, Node.js, Express.js, REST APIs, PostgreSQL, Prisma, JWT, tool/function calling

Frontend/DevOps: React, Next.js, React Native, Docker, AWS, GitLab CI/CD

Testing: Unit, integration, API, Playwright E2E, grounding and workflow validation

EDUCATION

Bachelor of Software Engineering | NED University (UIT) | 2021 - 2025