Murtza Ali

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Work Experience

Cloud Nebula (Starlab Capital) **Hybrid, India**

Software Developer – Backend *June 2026 – Present*

- Building the core backend of **Airrigate** (pre-launch) from the ground up with **FastAPI** and **PostgreSQL** – a **WaterOps platform** that converts water and energy conservation into verified water credits (airrigate.com).
- Designed modular **REST APIs** in a layered **router–service–repository** architecture with **SQLAlchemy**, enforcing **role-based access control** across multiple user roles and managing schema changes with **Alembic** migrations.
- Built the **farmer onboarding flow** end-to-end direct-to-**S3** uploads via **presigned URLs** so files bypass the API server, plus a **transactional email pipeline** for onboarding and status notifications, covered by **pytest** tests.

Research Intern *March 2026 – June 2026*

- Cut deployment time by **60%** by defining serverless **microservices** infrastructure in **AWS CDK** (**Infrastructure as Code**), making deployments fully automated and reproducible across environments.
- Built an **authentication layer** on **CloudFront** with **AWS Lambda@Edge** and **OAuth 2.0**, handling login callbacks, token issuance, and token validation at the edge.

Dubsway **June 2024 – Oct 2024**

Backend Developer Intern *Remote, India*

- Developed and maintained **REST APIs** with **Django REST Framework**; refactored the backend into cleaner, reusable modules and improved response times on key endpoints by ∼**30%**.
- Built a **real-time chat** feature using **Django Channels** and **WebSockets**, load-tested with **200+ concurrent connections**.

Technical Skills

Languages: Python, JavaScript, Java, C
Backend: FastAPI, Django, Django REST Framework, REST APIs, WebSockets, OAuth 2.0, JWT, pytest
Databases: PostgreSQL, SQL, SQLAlchemy, Alembic, MongoDB
Cloud & DevOps: AWS (CDK, Lambda, Lambda@Edge, CloudFront, S3, CodePipeline), Infrastructure as Code, Docker, CI/CD, Git
AI/LLM: OpenAI API, LangChain, Groq, Whisper
Frontend: React, TailwindCSS, HTML5, CSS3

Projects

AI Email Assistant | *FastAPI, OpenAI, GCP Pub/Sub, Retell AI, Twilio, Gmail API* | link

- Built an **event-driven AI agent** on **FastAPI** and **GCP Pub/Sub** that classifies incoming Gmail messages with **GPT-4o-mini** in real time and places a **Retell AI voice call** for urgent emails **within 5 seconds** of arrival.
- Integrated **5 external APIs** (Gmail, OpenAI, GCP, Retell AI, Twilio) into one pipeline, with a **cron-driven nightly job** that batches non-urgent emails into a structured **WhatsApp digest** via Twilio.

Tarana – Social Platform | *Django, PostgreSQL, WebSockets, JavaScript, TailwindCSS* | link

- Built and deployed a **full-stack social platform** on Render with a relational **PostgreSQL** schema for users, posts, and follows, real-time search, one-to-one chat over **Django Channels + WebSockets** with persisted history, and **OAuth2** login.

Dr.Prompt – AI Medical Assistant | *Python, Groq, Whisper, ElevenLabs, Streamlit* | link

- Built a **multimodal AI assistant** (voice + image + text) chaining **Whisper** (STT) → **Groq** (vision LLM) → **ElevenLabs** (TTS) with **under 3s** end-to-end latency.

Open Source Contribution

Alpha One Labs – Education Website | *Python, Django* | PR #632

- Merged PR improving UX flow and **WCAG accessibility** on a production open-source Django project, passing pre-commit hooks and the full automated test suite.

Education

ZHCET, Aligarh Muslim University **Sept 2022 – May 2026**

B.Tech in Electrical Engineering (CGPA: 8.0/10) *Aligarh, India*

- **Relevant Coursework:** Data Structures & Algorithms, Database Systems, OOP