

# Aditya Singh

Software Engineer

[www.linkedin.com/in/adityasingh28-developer](https://www.linkedin.com/in/adityasingh28-developer) | [github.com/Adityagithubhack](https://github.com/Adityagithubhack) | [candidates.intervues.club/u/aditya-singh](https://candidates.intervues.club/u/aditya-singh)

## SUMMARY

Software Engineer with experience in freelance backend development, wireless communication simulations, and building full-stack and distributed applications. Skilled in Python, TypeScript, Next.js, FastAPI, PostgreSQL, and containerized deployments using Docker.

## EXPERIENCE

### Freelance Backend Developer

Telegram Automation

Aug 2026 – Sep 2026

- Developed and deployed two paid Telegram VIP membership bots using Python, aiogram, PostgreSQL, Redis, SQLAlchemy, and Docker.
- Engineered automated onboarding, membership verification, VIP category management, and role-based administrative controls.
- Deployed client applications on DigitalOcean VPS with isolated Docker environments, separate PostgreSQL databases, and Redis instances.
- Configured database migrations, production environments, and automatic service recovery routines for server restarts.

### MATLAB wireless communication in 5G & 6G network Intern & Summer Fellow

Department Of ECE, GTBIT

Jun 2026 – Jul 2026

- Developed MATLAB simulations for fixed-power NOMA, AI-based user pairing, and Q-learning-based adaptive power allocation.
- Reduced average Bit Error Rate (BER) by approximately 52.7% using Q-learning-based power allocation compared to an equal-power baseline.
- Evaluated NOMA and OMA performance across AWGN, Rayleigh, and Rician fading channels utilizing throughput, BER, spectral efficiency, energy efficiency, and fairness metrics.
- Increased the Jain fairness index from 0.193 to 0.622–0.726 by embedding fairness criteria into the reinforcement learning objective.

## EDUCATION

Guru Tegh Bahadur Institute of Technology, GGSIPU · Bachelor of Technology · 2024 – 2028

## SKILLS

Languages and Frameworks: CSS, FastAPI, HTML, JavaScript, MATLAB, Next.js, Python, React, SQL, SQLAlchemy, TypeScript, aiogram, Celery

Databases: PostgreSQL, Redis, Supabase

Tools: Background Task Processing, DigitalOcean, Docker, Docker Compose, Git, GitHub, Github Actions (CI/CD), Linux, OAuth 2.0, REST APIs, Simulink, WebSockets

## PROJECTS

### Brahma — AI-Powered Creator Automation Platform

Architecting a multi-platform creator automation system using Next.js App Router, TypeScript, Supabase Auth, PostgreSQL, and server-side API routes handlers for YouTube and LinkedIn integrations.

Next.js, TypeScript, Supabase, YouTube Data API, AI APIs, PostgreSQL

### PulseWatch - Cloud Observability and Incident Management Platform

Architected a distributed monitoring pipeline using Celery Beat, Redis queues, and background workers for scheduled website and API health checks. Built asynchronous FastAPI services with WebSockets and Docker.

FastAPI, Next.js, PostgreSQL, Redis, Celery, WebSockets, Docker

<https://github.com/Adityagithubhack>

## AWARDS

MATLAB-Based Applications in 5G & 6G Networks - Four-Week Summer Training Program, GTBIT, Solar Cells and LED Simulation using SETFOS and LAOSS - Hands-on Workshop, Impulse Technology and Fluxim, Participated in expert lectures by Scientist-F officials from DRDO–SSPL