SOUVIK DAS

FULL STACK ENGINEER & TEAM LEAD | GIS DOMAIN SPECIALIST

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PROFESSIONAL SUMMARY

Full Stack Engineer and Team Lead with **4+ years** of experience delivering production **WebGIS platforms**, enterprise web applications and AI-driven automation, including systems serving **1,000+ concurrent users**. **GIS domain specialist** with multiple end-to-end GIS project deliveries spanning web mapping, spatial databases, photogrammetry and 3D digital twins. Applies **system design** on real projects and brings hands-on **VAPT remediation** experience. Technology-agnostic: picks the language, framework and architecture that fit the problem, ramps up fast on new stacks (Go, Kotlin), and loves learning and experimenting.

CORE STRENGTHS

Domain Expertise: GIS & Geospatial Engineering, Spatial Data Modeling, OGC Services, Raster/Vector, 3D Tiles, Photogrammetry

System Design: Microservices vs. Modular Monolith, Micro-Apps, Event Streaming, Load Balancing, Multi-Tenant DB, Offline Sync

Security: VAPT Remediation, Secure-by-Design Development, Role-Based Access Control, Linux Server Hardening

Engineering Leadership: Technology Selection, System Architecture Design, Code Review, Team Leadership, Agile/Scrum, Jira

TECHNICAL SKILLS

Frontend: Angular, RxJS, TypeScript, JavaScript, Tailwind CSS, HTML5, CSS3, Responsive Web Design

Backend: NestJS, Node.js, Express.js, Go, Python, FastAPI, Flask, REST API Design, NX Monorepo

Mobile: Flutter, Dart, Offline-First Sync, Kotlin, Jetpack Compose, CameraX, Cross-Platform Development

Databases & Messaging: PostgreSQL, PostGIS, MySQL, SQLite, SQL, Apache Kafka, WebSockets, MinIO

GIS & 3D: GeoServer, MapServer, OpenLayers, Leaflet, CesiumJS, Three.js, GDAL, 3D Tiles, COG, DSM/DTM/DEM, Point Clouds, 3D Meshes, Metashape API

Cloud & DevOps: AWS (EC2, S3, IAM, Boto3), Docker, Jenkins, CI/CD, Nginx, HAProxy, PM2, Linux/Ubuntu Administration, Git

AI & ML: LLM API Integration (OpenAI, Google Gemini), RAG, Prompt Engineering, PyTorch Model Deployment, Computer Vision

PROFESSIONAL EXPERIENCE

Full Stack Engineer & Team Lead | **Dhineu Solutions Pvt. Ltd.**

Hyderabad, India • February 2023 – Present

- Led development of **Neuspatial**, a WebGIS SaaS platform, architecting an NX Monorepo of isolated micro-apps with shared component libraries and per-application database isolation using Angular, NestJS and PostgreSQL/PostGIS.
- Engineered large-scale upload pipelines supporting **100GB datasets** with automated vector GIS ingestion into PostGIS, and migrated from local storage to MinIO for S3-compatible enterprise object storage.
- Architected high-throughput live location streaming with **Apache Kafka**, and built in-browser 3D geospatial visualization in CesiumJS and Three.js rendering point clouds, textured meshes and DSM/DTM surfaces for enterprise survey clients.
- Directed infrastructure for the **GHMC Property Survey** program supporting **1,000+ concurrent field users**: Ubuntu servers, Dockerized deployments, HAProxy round-robin load balancing, and PM2 monitoring with logrotate.
- Remediated **VAPT** findings across application and server layers, strengthening access control, input handling and infrastructure configuration on production systems.
- Developed an **offline-first Flutter** application with conflict-safe background synchronization for geotagged property capture in low-connectivity field conditions.
- Automated Python geospatial pipelines for COG generation, DEM/DSM/DTM to Cesium 3D Tiles, OBJ to GLB optimization and Agisoft Metashape photogrammetry jobs, eliminating manual desktop processing from delivery.
- Automated AWS EC2 provisioning and auto-termination with Python/Boto3 to scale compute for 3D builds and AI training; built Jenkins and Docker CI/CD pipelines across AWS EC2 and S3.
- Lead Angular developer and database architect for a **microfinance core banking** platform: normalized PostgreSQL schemas with full audit traceability, and OpenAI/Gemini integration to generate dynamic UI forms from schema definitions.

Software Developer Intern | **Spatial Hawk Geoinformatics Pvt. Ltd.**

Hyderabad, India (Remote) • January 2022 – December 2022

- Built enterprise HRMS modules (payroll, attendance, role-based access control) using Angular and MySQL.
- Implemented interactive spatial mapping and data interaction features using Leaflet and PostGIS.

OPEN SOURCE PROJECTS github.com/souvik-das-tech

- **MapNest** (Go, React, MapServer): lightweight GeoServer alternative publishing PostGIS, S3 and COG layers via REST API with versioned, validated mapfiles; ~115 MB idle vs 1–2 GB, 182 WMS req/s at p95 35 ms; CodeQL, Trivy and VAPT L1 checklist.
- **GPS Camera INDIA Offline** (Flutter, Kotlin): offline reverse geocoding for all of India from a custom 14 MB binary place database (OSM, GeoNames, Gov. open data); plus a native **Kotlin/Jetpack Compose** edition.
- **SSH Pro AI** (Python): SSH fleet manager with an approval-gated AI ops assistant. **Kotlin apps**: RubiQ puzzle solver (Kociemba), Carrom (custom physics engine), BhashaSetu translator, PDF Master.

EDUCATION

Master of Computer Applications (MCA), GITA Autonomous College, BPUT • 2021 – 2023 • DGPA 8.59

Bachelor of Computer Applications (BCA), MAKAUT University • 2018 – 2021 • DGPA 8.39

Languages: English (Fluent) • Hindi (Proficient) • Bengali (Native)