Himanshu Kumar Jha

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Education

Delhi Technological University (DTU), New Delhi **2022 – 2026**
B.Tech, Software Engineering | CGPA: **8.8** / 10

Rashtra Shakti Vidyalaya, New Delhi (CBSE) **2022**
Class XII: **94%** | Class X: **95.6%**

Experience

Cognecto — Software Development Engineer Intern **01/2026 – Present**
Remote, Bengaluru, India

- Architected the backend of a **model-agnostic computer-vision platform** so any ONNX/Triton model plugs in without code changes, via an async **FastAPI** service over **PostgreSQL** (async SQLAlchemy + Alembic) — cutting new-model onboarding from days to a config step.
- Engineered a real-time video-processing pipeline orchestrating **10+ Dockerized services** (MediaMTX, Triton, Prometheus, Grafana, Loki) via Docker Compose, with dual **JWT/API-key auth** and full observability for continuous multi-stream inference.
- Independently delivered **Cog-GeoSnap**, a cross-platform React Native (Expo) field app for geo-tagged video capture with resumable **AWS S3** uploads, offline queueing, and Supabase auth — production-ready end to end.

Accenture — Advanced Application Engineer Intern **06/2025 – 07/2025**
On-site, Bengaluru, India

- Developed a delivery-ETA prediction service with a **Gradient Boosting** model (**R^2 0.81, MAE 6.6 min**), deployed via an automated, **model-agnostic** serverless **MLOps pipeline** on Google Cloud Platform.
- Cut redeployment from **weeks to under 7 minutes** and operational cost to **under Rs. 170/month** (∼**4%** of the standard approach) through containerized, CI/CD-driven rollouts and elimination of idle compute.

Projects

Voter Segmentation & Field-Verification Platform TypeScript, Node.js, Express, PostgreSQL, Turf.js, Next.js, Docker, Railway
Personal Project

- Designed a **deterministic, grid-based geospatial voter-segmentation engine** that partitions electoral rolls into balanced segments with **100% household integrity** (zero split families) by treating each family as an indivisible atomic unit.
- Shipped a companion web app enabling field administrators and **Booth Level Officers (BLOs)** to reach out to and **digitally verify voters** using **GPS location data**; validated across **4 assembly constituencies** in Uttar Pradesh on publicly available electoral-roll data.

Excavator Monitoring System Docker, AWS ECS, Lambda, S3, ECR, IAM, CloudWatch, Timestream
GitHub

- Orchestrated a resilient, cloud-native AWS workflow that classifies excavator activity from video streams with **95% precision**, via a data-ingestion pipeline that segments large-scale surveillance into **60-second intervals** for continuous utilization analytics.

Roller Compaction-Pass Detection Python, GeoPandas, Shapely, SciPy, AWS Timestream, AG-Grid

- Authored the **pass-detection algorithm** that computes the **number of road-roller compaction passes** per section directly from raw multi-source telemetry (1 Hz GPS position and ∼2-min sensor feeds).
- Created an interactive **AG-Grid dashboard** surfacing **13 per-pass metrics** (direction, lane, chainage, duration, distance, speed) with daily totals per asset across left/center/right lanes.

Strength MMA — Freelance Client Website Next.js, React, SEO, Vercel

- Launched a responsive **Next.js** site for a combat-sports academy with on-page **SEO** (semantic markup, meta tags, optimized images) that drove **34% of traffic via organic search** in its first 3 months.

Publications

- **"Minimizing False Alarms in Real-Time Surveillance via Hierarchical Multimodal Fusion of Object Detection, Action Recognition, and Gait Analysis"** — accepted, **Springer LNNS** series, ICDAM-2026, London Metropolitan University, UK (06/2026). *Top 20% of reviewed submissions.*

Technical Skills

Languages	Python, Java, JavaScript, TypeScript, SQL, C
Backend	FastAPI, Node.js, Express.js, REST APIs, WebSockets/WebRTC, async SQLAlchemy, Microservices
Databases	PostgreSQL, MySQL, MongoDB, Supabase, Alembic (migrations)
Cloud & DevOps	AWS (ECS, Lambda, S3, ECR, CloudWatch), GCP, Docker, CI/CD, Git, Prometheus/Grafana
CS Fundamentals	DSA, OOP, Operating Systems, DBMS, Computer Networks, System Design

Achievements

- Solved **1000+ Data Structures & Algorithms problems** across LeetCode, CodeChef, and Codeforces.
- **Springer-accepted research author** — **top 20%** of submissions at ICDAM-2026 (Springer LNNS series).
- **Certifications:** NPTEL Elite + Gold; Coursera *Supervised Machine Learning: Regression and Classification* (DeepLearning.AI & Stanford).