

ANANT GOEL

Software Engineering | Applied AI | IoT Systems | Security

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PROFESSIONAL SUMMARY

Final-year Computer Science student building complete software workflows across computer vision, security, connected-device services, and offline products. Experience includes a two-month industry internship and project work spanning APIs, data pipelines, explainable decision logic, dashboards, and reproducible validation.

EDUCATION

BML Munjal University | B.Tech in Computer Science | Expected May 2027

WORK EXPERIENCE

Intern | Bodycast Innovators Pvt. Ltd. | May 2025 - Jul 2025

Dwarka, Delhi, India | On-site

- Assisted across multiple projects while developing practical familiarity with power electronics, IoT, and microcontrollers.
- Gained exposure to PCB design, consumer electronics, and electrical engineering through the internship.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, SQL

AI & perception: OpenCV, YOLO, ByteTrack, PyTorch, Grad-CAM, calibrated geometry

Backend & data: FastAPI, Flask, Node.js, Express, PostgreSQL, Redis, SQLite

Interfaces & deployment: React, Next.js, Electron, Streamlit, Docker, Cloudflare Workers / D1

Specialized project tools: Qiskit Aer, Pandas, scikit-learn, RFID device APIs, fog-edge simulation

Engineering practices: Automated tests, GitHub Actions, telemetry, scoped security verification

PROJECTS

PathWise

Python, YOLO, ByteTrack, OpenCV

- Built a road-risk pipeline with persistent vehicle tracking, calibrated road-plane projection, and explainable time-to-collision and cut-in rules.
- Validated a six-second synthetic reference scenario containing 180 frames and 540 actor samples; demo outputs are not real-world perception-accuracy claims.

Insidi_OS | Insider-Threat Investigation Lab

FastAPI, Next.js, PostgreSQL, Redis

- Extended Deception Orchestrator with identity-aware detection rules, account filters, and explainable findings for employee data misuse and administrator abuse.
- Built a timed showcase with pause, replay, investigation timelines, and synthetic containment; added authenticated sessions, CSRF checks, and browser-workflow validation.

PROJECTS (CONTINUED)

RFID Smart Warehouse System

JavaScript, Node.js, Express, SQLite

- Built device-facing REST endpoints for RFID item registration, tag assignment, checkout, and temperature, humidity, gas, and alarm telemetry.
- Persisted inventory and sensor events in SQLite with timestamped audit logs and a web dashboard; designed the API for ESP32 devices using RC522, DHT22, and MQ sensors.

SpeedNet | Fog-Edge Simulation

Python, Flask, JSON telemetry

- Built deterministic virtual sensor nodes and a fog-layer API to calculate explainable highway speed advisories from weather and traffic observations.
- Validated sensor ranges, expired stale nodes, and exposed live status with thread-safe state; added reproducible scenarios and automated tests. Sensor inputs are simulated.

Traffic Intelligence

Python, YOLO, ByteTrack, React

- Connected road-activity detection and persistent tracking to incident recording and operational telemetry.
- Built a React dashboard to make traffic analytics and recorded incidents inspectable in one workflow.

Quantum Lunar Edge Detection | FRQI & NEQR Variants

Python, Qiskit Aer, image processing

FRQI source | NEQR source

- Developed attributed FRQI and NEQR variants of an upstream lunar imaging system, reconstructing intensity differences or quantized boundaries from measured circuit counts.
- Integrated tiled inference, halo stitching, gate-checkpoint playback, image uploads, and classical comparison panels; validated encoded states and measured outputs on an ideal simulator.

Chest X-Ray Classification | Educational Prototype

PyTorch, Flask, Grad-CAM

- Built a CNN training and inference workflow for normal/pneumonia chest X-ray classification, with automatic CUDA or CPU selection.
- Implemented Grad-CAM explanations and an image-upload interface; documented checkpoint requirements and educational, non-clinical scope.

PROJECTS (CONTINUED)

Deception Orchestrator

Python, FastAPI, Next.js, Docker

- Developed a self-hostable analyst console that turns honeypot and URL-canary events into MITRE ATT&CK-tagged investigations.
- Connected a FastAPI control plane to a Next.js workspace, with Docker deployment and automated backend tests and frontend builds.

Pentest Agent

Python, HTTPX, Click, GitHub Actions

- Created an educational CLI for authorized web assessment with explicit scope controls, exact-host boundaries, and bounded request limits.
- Added evidence-first verification and deterministic JSON/Markdown reports; maintained CI checks for tests, linting, security auditing, and package builds.

Mouseion

TypeScript, React, Electron, Vite

- Built a private PDF and EPUB library with metadata, favorites, and reading progress, without cloud accounts or document uploads.
- Packaged a local-first React interface with Electron; added catalogue tests and an Electron smoke test.

Internwise | Internship Discovery & Resume Tools

TypeScript, React, Cloudflare Workers, D1

- Built opportunity discovery, location filtering, role-fit scoring, and GitHub-based resume tailoring in a student-facing web application.
- Connected a React interface to Cloudflare Workers and D1 storage using Drizzle ORM, with source URLs and verification timestamps for listings.

ParkingIntel | Hackathon Project

Pandas, scikit-learn, Streamlit, Folium

- Built DBSCAN hotspot clustering and a dashboard for parking-violation records, with station, time, weekday, and vehicle-type filters.
- Combined spatial maps, temporal charts, station comparisons, and observational gap analysis to help inspect enforcement patterns.

ADDITIONAL INFORMATION

On-site / hybrid roles in India. Flexible duration; start date to be discussed.