SIBAPRASAD CHOUDHURY

Full Stack Developer · AI/ML Solutions

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PROFESSIONAL SUMMARY

Motivated Full Stack Developer specialising in AI/ML-powered solutions, with hands-on experience building intelligent systems for live airport operations at GMR Airports (via WAISL). Own the complete development lifecycle — model development (YOLOv8, FaceNet, OCR) → API layer (Flask, FastAPI) → frontend integration (Angular) — then coordinate handoff to the DevOps team for Docker containerisation and AWS EC2 deployment, while actively learning cloud release workflows through direct collaboration. Committed to building reliable, production-ready AI systems that drive measurable operational impact.

TECHNICAL SKILLS

Frontend: Angular (v14+), TypeScript, HTML5, CSS3, RxJS, Angular Material, Bootstrap
Backend & APIs: Flask, FastAPI, Spring Boot, REST APIs, Microservices, JWT Auth, Swagger/OpenAPI
AI / ML: Python, YOLOv8, OpenCV, PyTorch, FaceNet, DeepFace, DeepSORT, OCR (EasyOCR/Tesseract), MLflow
Database & Tools: MySQL, PostgreSQL, Oracle DB, MongoDB, Git, GitHub, Docker (learning), AWS EC2 (learning)

WORK EXPERIENCE

Full Stack Developer — AI/ML Solutions | **WAISL (GMR Airports Client)** | April 2025 – Present | Hyderabad, India

- Design and develop AI-powered full stack applications for real-time airport operations, integrating computer vision models with Flask/FastAPI backends and Angular frontends to handle live feeds from 50+ CCTV cameras simultaneously.
- Own full development scope — data collection & annotation, model training & evaluation, REST API development, Angular dashboard integration — and hand off development-ready builds to the DevOps team for Docker containerisation and AWS EC2 deployment.
- Build RESTful AI inference APIs (Flask/FastAPI) consumed by Angular dashboards for real-time alerts and analytics; implement JWT-based auth and multi-role RBAC; actively learning Docker and AWS EC2 deployment through hands-on DevOps collaboration.
- Drive measurable operational impact: 40% reduction in safety violations, 45% faster incident response, and 50%+ reduction in manual verification workload across deployed airport modules.

KEY PROJECTS

ADP/AVP — Airside Driving & Vehicle Permit System — *Angular, Flask, MySQL, EasyOCR, Docker (via DevOps)*

- Built a full-stack digital permit platform with a 5-role RBAC approval workflow (applicant → verifier → department head → security → admin), cutting permit processing turnaround from 3 days to under 4 hours through end-to-end workflow automation.
- Developed an AI-based OCR pipeline (EasyOCR + OpenCV) for automated Aadhaar and Driving Licence data extraction from uploaded documents, achieving 94%+ accuracy and eliminating manual entry errors; implemented QR-code mobile exam access with Flask/MySQL backend; supported DevOps team during deployment validation on AWS EC2.

Oversize Baggage Detection — GMR Airport — *YOLOv8, OpenCV, PyTorch, Flask API, Docker (via DevOps)*

- Fine-tuned YOLOv8 on a custom-annotated dataset of 5,000+ baggage images, achieving 92%+ detection accuracy (<5% false positives); integrated perspective geometry for real-time dimensional classification against configurable airline-specific thresholds.
- Developed Flask API exposing detection results and triggering automated staff alerts within 1.5 seconds of detection; packaged the application and coordinated with the DevOps team for Docker containerisation and AWS EC2 production deployment.

Kamalanga Video Analytics Platform — 4 AI Modules — *YOLOv8, DeepSORT, OpenCV, Flask, Docker (via DevOps)*

- Independently developed 4 AI modules: PPE Detection (YOLOv8, 90%+ precision, 40% violation reduction); Smoke & Fire Detection (multi-class temporal model, <8s detection); People & Vehicle Counting (DeepSORT directional tracking); Intrusion Detection (geofence line-crossing alerts, <2s latency).
- Built Flask REST APIs for each module consumed by the Angular analytics dashboard; prepared complete Dockerised service builds and worked with DevOps for staged production deployment onto the live server environment.

DigiYatra FIDS — Face Recognition Passenger Display System — *FaceNet, DeepFace, FastAPI, OpenCV, Angular*

- Built FaceNet-based biometric identification pipeline (96%+ accuracy) with liveness detection; reduced per-face inference from 800ms to 120ms through model optimisation, supporting 500+ concurrent passenger flows at peak boarding hours.
- Developed FastAPI backend serving face match results to the Angular FIDS frontend and AODB integration layer, enabling auto-identification of passengers at gates within 2 seconds; completed all development independently before DevOps-managed cloud release.

EDUCATION

MCA | KIIT University, Bhubaneswar | CGPA: 8.50 | 2022–2024
B.Sc. Physics (Hons) | Utkal University, Bhubaneswar | CGPA: 9.05 | 2019–2022
+2 Science | CHSE Odisha, Nimapada HS School | 74.33% | 2017–2019
10th Standard | BSE Odisha, Saraswata Secondary School | 81% | 2016–2017

CERTIFICATIONS

- Data Science Certification — Pantech Solutions (2023–24): EDA, TensorFlow, PyTorch, Scikit-learn, Random Forest, SVM, SQL pipelines across 15+ datasets
- BCG Data Science Job Simulation — Forage (Feb 2024) | NLP, ChatGPT & Prompt Engineering — EXCELR Solutions (Jan 2024) | Git & GitHub — EXCELR (Feb 2024)