Soumya Das

Full Stack Developer | Edge AI & ML Engineer | Researcher

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Summary

Full Stack Developer and Edge AI engineer (Integrated MCA, CGPA **8.54/10**) who ships working systems, not just notebooks. Built 5+ applications across edtech, agri-tech, e-commerce, banking and healthcare, and deployed quantized CNN models on **NVIDIA Jetson Orin Nano** with sub-100 ms inference and a **4× GPU speedup**. Author of research papers on edge-deployed medical AI, with a patent listed on LinkedIn, and presenter at **ICPAT 2025**.

Technical Skills

Languages	Python, JavaScript, PHP, Java, C, C++, SQL, HTML5, CSS3
Web / Backend	Django, REST APIs, Node.js, React.js, Next.js, PHP/Core PHP, ASP.NET, AJAX, Bootstrap, Tailwind CSS
ML / Edge AI	CNN, TensorFlow Lite, FP16 & INT8 quantization, CUDA, NVIDIA Jetson Orin Nano, Raspberry Pi, IoT sensor integration, Statistics
Databases	MySQL, MySQL Workbench, MongoDB
Tools	Git, GitHub, VS Code, PyCharm, NetBeans, XAMPP, Figma, Draw.io, n8n, LangChain
AI Tools	GitHub Copilot, Claude, ChatGPT, Gemini, DeepSeek, Prompt Engineering
Concepts	OOP, Data Structures & Algorithms, System Design, Agile, ER / DFD / Sequence diagrams, Mobile App Design & Development

Experience

Freelance Full-Stack Developer | *AI/ML & IoT Projects — India* Jan 2026 – Present

- Build secure, scalable AI, ML, IoT and full-stack web solutions using Python, Django, React, PHP, REST APIs and relational databases.
- Deliver automation and smart-system projects end to end for clients, from requirements to deployment.

AI & IoT Innovation Intern | *Tinkering Hub, Parul University* Jan 2026 – Mar 2026

- Found a high time-complexity bottleneck in a production AI project and rewrote the core ML inference logic, cutting latency from **800 ms to under 200 ms**.
- Deployed quantized CNN models (FP16 + TFLite) on **Jetson Orin Nano** via CUDA, a **4×+ speedup** over a CPU-based Raspberry Pi baseline.
- Built an AI Crop & Soil Field Diagnosis System with object-oriented Python, IoT sensors and Django for real farming use across **3+ deployments**.
- Worked with hardware and software stakeholders to define requirements and deliver reliable AI-hardware solutions.

Growth Intern | *HireZapp Technologies — Remote* Nov 2025 – Jan 2026

- Validated large datasets for accuracy and automated data workflows with scripting, reducing manual processing time.
- Maintained outreach and stakeholder databases and supported partner identification; earned a **Letter of Recommendation**.

Projects

AI-Powered Wearable Smart Health Monitoring System 2025 – Present
Python, CNN, TensorFlow Lite, CUDA, Jetson Orin Nano, IoT

- Deployed FP16 and quantized TFLite CNNs on Jetson Orin Nano: **97–98% accuracy** with low-latency GPU inference, **4×+ faster** than the Raspberry Pi baseline.
- Integrated wearable IoT sensors with a real-time ML pipeline for remote patient monitoring and alerts; owned training, optimization, deployment, benchmarking and documentation.

AI-Powered Crop Health Diagnosis System Sep 2025 – Present
Python, CNN, Django, REST APIs, IoT

- Trained CNNs on **1,500+ images**: **96%+ disease accuracy**, **∼92% seed classification**, 35% fewer seed-selection errors.
- Built soil (pH, NPK), fertilizer and weather modules that cut fertilizer overuse by **25–30%**; shipped a Django portal and agri-marketplace with **50+ products**.

Rural Banking System — AI-Powered Internet Banking Sep 2024 – Present
PHP, MySQL, JavaScript, AJAX, Machine Learning

- Lead developer of a secure banking platform with supervised and unsupervised **anomaly detection for fraud**, multi-level authentication, role-based access and real-time fund transfers.

Learning Management System — Rural Colleges Jun – Aug 2025
PHP, MySQL, JavaScript, AJAX, Bootstrap

- Built an LMS with role-based dashboards, enrolment, attendance, file uploads, performance tracking and live sessions; AJAX updates improved performance by **40%**.

University Website Portal | Foody Organic Marketplace Dec 2024 – Apr 2025
HTML5, CSS3, JavaScript, Bootstrap, PHP, MySQL, AJAX

- University portal with a Core PHP/MySQL admin dashboard; page loads **35% faster** after asset and query optimization.
- Foody: farmer-to-consumer marketplace with filters, search, real-time cart and order tracking; **95% mobile usability score**.

AI Voice Chatbot | QR Code Generator | Browser Games GitHub
JavaScript, Python, Web Speech API

- Voice chatbot with speech recognition and spoken replies (live demo); Python QR generator; Snake and Cube-Solve games.

Research, Publications & Patent

- **Oral Presenter, ICPAT 2025:** AI-based smart automotive vehicles, intelligent systems and real-time decision making.
- *Comparative Evaluation of Lightweight CNN Models for Edge-Based COVID-19 Detection from Chest X-Ray Images.*
- *HybridEdge-COVID: Fair Compression Benchmarking, Calibration-Aware Uncertainty Quantification, and Radiologist-Validated Explainability for Trustworthy Edge-Deployed COVID-19 Chest X-Ray Screening.*
- *SmartFerment AI: Fault-Stratified Anomaly Detection with Conformalized Uncertainty Quantification for Fed-Batch Fermentation Monitoring.*
- *Non-Invasive Biosensing System for Diagnosis of Trauma at Marma Hand Points.*
- **Patent:** Unified AI System for Simultaneous Multi-Disease Detection from Chest X-Ray Images Using Multilabel Deep Learning on Edge Hardware.

Leadership & Hackathons

- **Team Leader in 4 hackathons** including Smart India Hackathon 2025 and PU Code Hackathon 3.0: ran planning, task allocation, milestones and final demos.
- Product Management Training; Tech Expo; Certificate of Highest Attendance.

Education

Integrated MCA (Master's equivalent), Computer Science | *Parul University, Vadodara* Jul 2024 – Jul 2028
CGPA **8.54/10**

Computer Science Professional Certificate | *Harvard Online* Jun 2025 – Dec 2026

Higher Secondary (12th), Computer Science | *Saharda Kalipada Vidyapith, West Bengal* 2022 – 2024

Certifications

- IBM Python & SQL and Relational Databases 101
- Oracle Fusion AI Agent Studio (Foundations Associate)
- NPTEL Programming in Java (Elite)
- Python Essentials 1 & 2 (Cisco)
- Foundational C# with Microsoft
- Google Analytics; SEO Essentials with Semrush
- ITS HTML & CSS; ITS JavaScript (Certiport)
- Graphs Camp Completion Certificate