

SOUMIKA DAS

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EXPERIENCE

Software Engineer Intern

Oct 2025 – Present

PepHub (Service-Based)

Remote

- Engineered 3 full-stack platforms (Next.js/Node.js portal with Stripe, ASP.NET Core FinTech API, Vite botanical tool) with strong payment reliability and noticeably faster load times.
- Delivered faster manual processing, 3x deployment acceleration, reduced bugs, and smoother workflows via modular architecture.
- Managed 3 production deployments with PM2/SSH while reducing deployment time from 45min to 8min.

Software Engineer Intern

Jan 2025 - Jun 2025

RevMaxx (HealthTech)

Onsite

- Developed HIPAA-compliant medical transcription backend with SNOMED CT/ICD-10, reducing coding errors and improving compliance.
- Built an AI microservice for medical entity extraction using NLP across 50K+ clinical notes, significantly reducing manual review.
- Implemented error handling with retry logic and circuit breakers, reducing failures from 12/week to under 1.

Software Engineer Intern

Jun 2025 - Sep 2025

Cardiacrhythm (HealthTech)

Remote

- Built WebSocket real-time ECG streaming infrastructure supporting 200+ concurrent streams, reducing latency from 1.8s to 180ms with very low packet loss.
- Optimized large JSON payloads via compression and chunking, reducing size from 8MB to 2MB and improving responsiveness 4x.
- Implemented error recovery with auto-reconnection and session restoration, improving persistence and preventing data loss for 15K+ daily sessions.

Research Engineer Intern

Dec 2024 - Dec 2025

IEDC, Dept. of CSE, UEM Kolkata

Hybrid

- Developed brain tumor classification via CNN-LSTM on 3,200+ MRI scans; published an AISC Conference paper with measurable improvement.
- Architected the “Satyameba” HPC cluster with Ansible automation, reducing setup time from 8 hours to 22 minutes and adding 3 new features.
- Engineered real-time YOLO/OpenCV face detection at 96% accuracy, 45 FPS across 8 streams; enabled 5x faster ML training infrastructure.

SKILLS

- **Languages:** C#, Python, TypeScript/JavaScript
- **Backend:** ASP.NET Core, Node.js, FastAPI, REST APIs, WebSocket, Microservices
- **Frontend:** Next.js, React, Vite
- **Databases:** PostgreSQL, MySQL, MS SQL Server, MongoDB
- **DevOps:** PM2, Docker, Linux
- **ML/AI:** CNN, LSTM, YOLO, TensorFlow, PyTorch, OpenCV, NLP
- **Healthcare:** HIPAA, SNOMED CT, ICD-10

PAPER & PUBLICATIONS

- **Brain Tumor Detection using CNN-LSTM**, AISC Conference (improved ensemble-learning performance)

EDUCATION

Bachelor of Technology in Computer Science and Engineering

Expected 2027

(IoT, Cybersecurity and Blockchain Technology)

GPA:7.73

Institute of Engineering and Management, Newtown

PROJECTS

- **Real-Time Video Proctoring:** Engineered exam monitoring with WebSocket, OpenCV & MediaPipe for reliable violation detection.
- **AI Resume Parser:** Built an NLP parser extracting structured JSON from PDF/DOCX; reduced screening time by 8hrs/week and improved hiring turnaround.
- **Diaspora Job Marketplace:** Launched a production job platform with JWT auth, OAuth, and payment integration.