

SUPARNA PANDA

Aspiring Software Developer

Salt Lake, Kolkata – 700156

Email — LinkedIn — GitHub — X

Summary

Aspiring software developer with strong interests in artificial intelligence, data science, and web development. Focused on building data-driven applications, experimenting with intelligent models, and developing clean, scalable web solutions. Actively values open-source learning, collaboration, and continuous skill growth.

Technical Skills

- **Programming Languages:** C, C++, Python, JavaScript
- **Web Technologies:** HTML5, CSS, Bootstrap, Tailwind CSS
- **AI / Machine Learning:** Supervised and Unsupervised Learning, Feature Engineering, Model Training and Evaluation, Basic NLP
- **Data Science:** Exploratory Data Analysis (EDA), Data Cleaning, Statistical Analysis, Visualization Concepts
- **Generative AI:** Generative Model Fundamentals, Prompt Engineering, LLM Concepts, API-Based Model Integration
- **Core Computer Science:** Object-Oriented Programming, Data Structures and Algorithms, Operating Systems

Projects

AeroSense — AI-Powered Environmental Monitoring & Weather Intelligence **Dec 2025**

Tech Stack: Next.js, React, Node.js, WebSocket, Arduino, Python, PyTorch, OpenWeather API, IoT Sensors

- Developed a full-stack environmental monitoring solution integrating IoT sensor data (temperature, humidity, air quality) with a live Next.js dashboard using WebSockets.
- Implemented a weather forecasting pipeline in Python using PyTorch and transformer-based models (GPT-2) to analyze historical trends and predict future conditions.
- Architected a modular system separating frontend, backend, AI/ML, and IoT layers to support scalability, real-time analytics, and data visualization.

NovaAid — Blockchain-Powered Refugee Assistance Platform

Oct 2025

Tech Stack: Next.js, TypeScript, Node.js, Express, Celo Blockchain, Solidity, Firebase, Clerk, Semaphore (ZK), WebRTC

- Built a decentralized aid distribution platform on the Celo blockchain using zero-knowledge identity (Semaphore) for privacy-preserving refugee verification.
- Designed role-based portals for refugees and NGOs featuring secure authentication, emergency SOS workflows, GPS tracking, dashboards, and WebRTC-based communication.
- Integrated AI-driven modules for fraud detection, aid prioritization, and intelligent alerting to enhance transparency and operational efficiency.

ResQX — AI-Driven Disaster Management & Severity Prediction

Sept 2025

Tech Stack: React, TypeScript, Vite, Tailwind CSS, Firebase, Clerk Auth, Three.js, Framer Motion, Python, PyTorch, Flask

- Developed a secure disaster management application with authenticated access, protected dashboards, and responsive, animated UI components.
- Built an image-based disaster classification and severity prediction model using a multi-head CNN in PyTorch, producing impact scores on a 1–10 scale.
- Implemented API-based inference services with fallback handling to maintain system reliability during model or service degradation.

Education

Bachelor of Technology – Computer Science Engineering

Aug 2024 – Aug 2028

Techno India University

Major in Computer Science Engineering

Higher Secondary Examination (Class XII)

May 2021 – May 2023

Katwa D.D.C. Girls High School

Pure Science (With Biology)