

# Swarnadeep Saha Poddar

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## Education

### Siliguri Institute of Technology

Aug 2022 – Present

*Bachelor of Technology in Computer Science and Engineering*

### Caesar School, Malbazar

Aug 2020 – July 2022

*Class XII – CBSE*

### St. Xavier's School, Raiganj

Mar 2008 – July 2020

*Class X – ICSE*

## Experience

### Full Stack Developer @ Dimension Lab

Aug 2023 – Feb 2024

- Developed production-ready web applications using **React.js**, **Node.js**, **Express.js**, **MongoDB**.
- Implemented secure authentication, optimized API latency, and enabled server scaling for increased traffic.
- Deployed services on **AWS (EC2, S3, IAM)** and container-based workflows using **Docker** & **Microservice**.

### MERN Developer Intern @ IIT Delhi

Dec 2024 – Feb 2025

- Built a scalable Learning Management System (LMS) backend using **Node.js**, **Express**, **MongoDB**, improving API
- Designed role-based authentication (Admin/SuperAdmin) and optimized REST APIs for performance.
- Containerized backend services using **Docker** and deployed automated builds via **GitHub Actions CI/CD**.

## Technical Skills

**Programming Languages:** JavaScript, TypeScript, Python, Java, C, Go

**Databases:** MongoDB, PostgreSQL, MySQL, Firebase, Supabase, Appwrite, SQLite, Oracle DB SQL

**Backend:** Node.js, Express.js, Django, RESTful APIs, GraphQL, JWT Authentication, Multer, Prisma

**Frontend:** React.js, Next.js, TypeScript, JavaScript (ES6+), Tailwind CSS, Framer Motion, Redux, NextAuth

**Developer Tools:** Postman, Figma, VS Code, Bash, Shell Scripting, Subprocesses Terminus, VMware Workstation

**Computer Vision:** Object Detection, Contour Analysis, Face Recognition, Edge Detection and more using OpenCV

**DevOps Tools:** Nginx, Docker, Kubernetes, Jenkins, Git CLI, Github CI/CD, Terraforms, Kafka, Redis, Apache Kafka

**Frameworks & Libraries:** Django, Flask, Tkinter, Pandas, NumPy, Matplotlib, Seaborn, Plotly, OpenCV, Scikit-learn

**Cloud Tools:** AWS Lambda, EC2, VPC, S3, Google App Engine, Firebase, Google Apis, Azure Blob Storage, Entra ID

## Projects

### Synergy-X — Python, Linux, Tkinter, Shell, Firmware APIs, PDF Tools

Github

- Executes firmware-level sanitization (**ATA Secure Erase**, **NVMe Sanitize**) ensuring irreversible data removal.
- Developed a secure, offline, and bootable platform for complete data erasure from **HDDs, SSDs, NVMe, and Devices**.
- Generates tamper-proof, digitally signed **PDF/JSON wipe reports** compliant with **NIST SP 800-88, GDPR, CCPA**

### SSPAI-CLI — Node.js, Express.js, MongoDB, JS Threads, Gemini API, OpenAI API

NPM Package

- Enabled seamless switching between **Gemini** and **OpenAI** models with a modular configuration architecture.
- Implemented multi-threaded execution using JavaScript Threads for concurrent task handling and better performance.
- Built a full-stack AI-powered **Command Line Interface (CLI)** tool offering instant AI assistance directly from CMD

### Trip Blueprint — React.js, Node.js, Google Maps API, Google Vertex AI, Tailwind CSS

Live Project

- Implemented dynamic map rendering with custom markers, live distance calculations, and destination-based insights.
- Designed a responsive and modern UI using **React.js** and **Tailwind CSS**, ensuring seamless usability across devices.
- Developed an intelligent travel planning platform that integrates **Google Maps** and **Vertex AI** to provide real-time route

### SSP Gemini — Tech Stack: JavaScript, Google Gemini API, Google Cloud Platform, Flask Backend

Live Project

- Integrated with **Google Cloud Services** for API orchestration, storage, and scalable deployment.
- Built an interactive front-end enabling users to query, visualize, and interpret responses with embedded media cards.
- Created a conversational AI assistant leveraging **Google Gemini** to generate real-time, context-aware responses for users.

### Virtual Gather — Python, Django, JavaScript, Agora, WebRTC, SQLite

Live Project

- Integrated **Agora** and **WebRTC** to deliver ultra-low latency audio and video communication.
- Implemented spatial audio, dynamic room management, and secure role-based access for meetings.
- Developed an innovative real-time virtual meeting platform powered by **Django** (backend) and **JavaScript** (frontend).

### VehicleVision — Python, OpenCV, TensorFlow, Flask, MongoDB

(In Development)

### College Collab — React Js, Node JS, Express Js, MongoDB, Redux, Bcrypt

(In Development)