

SWAGATA GANGULY

📞 +91 9674415363 ✉ sagotogdg@gmail.com 🔗 linkedin.com/in/swagata-ganguly
🐙 github.com/Cyberclutch146 🌐 swagata.tech

SUMMARY

Full-stack developer and Web3 enthusiast with hands-on experience building decentralized applications and blockchain integrations using **Solidity**, alongside production-grade web platforms powered by AI. Actively contributing to the Web3 ecosystem through club leadership roles at RCCIIT, where I help communities explore smart contracts, DeFi protocols, and on-chain architectures. Passionate about bridging traditional web infrastructure with decentralized systems — from RAG-powered AI platforms to CRDT-synced collaborative tools — and currently seeking opportunities to push the boundaries of Web3 product development.

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Python, Java, C, HTML/CSS, Solidity
Frameworks: React.js, Next.js, Node.js, Express.js, FastAPI, Tailwind CSS
Databases & ORM: MongoDB, PostgreSQL, MySQL, Prisma, Azure SQL, Firebase
Cloud & Tools: Git, GitHub, Postman, Vercel, Netlify, Figma
Web3 & Blockchain: Solidity, Ethereum, Smart Contracts, Hardhat, Web3.js, Ethers.js
Backend & APIs: REST APIs, JWT Authentication, Socket.io
AI & Emerging Tech: AI Integration, RAG
CS Fundamentals: Data Structures & Algorithms, Object-Oriented Programming, DBMS

RECENT PROJECTS

NexusAid 🌀 | *Next.js, React.js, Firebase, Gemini AI, Razorpay* Apr 2026

- Built an AI-powered disaster response and relief coordination platform enabling real-time crisis reporting, intelligent assistance, and centralized resource management.
- Integrated **Gemini AI** with **RAG-based contextual assistance** to provide location-aware emergency guidance, relief information, and instant support during crises.
- Developed a scalable frontend architecture using **Next.js** and **React.js**, featuring live updates, interactive dashboards, and responsive UI optimized for accessibility and rapid response.
- Implemented secure backend services and authentication with **Firebase**, along with **Razorpay** integration for transparent donation handling and relief fund collection.
- Designed a global real-time event monitoring system aggregating disaster-related data streams to help users track emergencies, coordinate aid, and improve response efficiency.

RoadmapAI 🌀 | *Next.js 14, FastAPI, Firebase, Google Gemini 2.0, Tailwind CSS* May 2026

- Architected a full-stack AI educational platform using **Next.js 14** and **FastAPI**, leveraging **Google Gemini 2.0 Flash** to dynamically generate personalized learning roadmaps and adaptive skill assessments.
- Engineered an interactive lesson workspace featuring a **Monaco Code Playground**, rich-text note-taking, and a context-aware **AI Mentor** capable of providing real-time explanations and conducting technical mock interviews.
- Implemented scalable progress tracking and analytics dashboards using **Firebase Authentication** and **Cloud Firestore**, with optimized local storage fallbacks for guest users.

Flux Whiteboard (SYNQ) 🌀 | *Next.js 15, Yjs, Firebase, React Konva, WebRTC* Jan 2026

- Architected a real-time collaborative workspace combining an infinite multiplayer whiteboard and synchronized rich-text notebook with seamless environment switching.
- Implemented decentralized **CRDT-based synchronization** using **Yjs** and **WebRTC**, enabling low-latency multi-user collaboration with conflict-free shared state management.
- Engineered a split-render synchronization pipeline where local canvas strokes render instantly while remote updates sync asynchronously at optimized **60 FPS**, eliminating perceived drawing latency.
- Built an infinite canvas system using **React Konva** featuring live cursors, geometric primitives, touch-optimized controls, mobile panning, and real-time collaborative editing support.

EXPERIENCE

GDSC RCCIIT

Aug 2024 – Present

Web3 and Blockchain Associate

RCC Institute of Technology, Kolkata

- Conducted hands-on workshops and sessions on **Solidity**, smart contract development, and Ethereum fundamentals for 100+ club members.
- Curated learning resources and guided members through building their first decentralized applications (dApps) on testnet environments.
- Collaborated with the core team to design Web3-focused event tracks and hackathon problem statements centered on DeFi and on-chain tooling.

IgniteX Club RCCIIT

Oct 2024 – Present

Web3 and Blockchain Associate

RCC Institute of Technology, Kolkata

- Led discussions and workshops on blockchain architecture, consensus mechanisms, and smart contract security best practices.
- Mentored peers in deploying and verifying contracts using **Hardhat** and **Remix IDE**, covering ERC-20 and ERC-721 token standards.
- Organized internal demo days where members showcased blockchain mini-projects, fostering a culture of hands-on experimentation.

RCCTechz Club RCCIIT

Nov 2024 – Present

PR and Outreach Associate

RCC Institute of Technology, Kolkata

- Managed social media presence and outreach campaigns, growing the club's follower base and improving event visibility across platforms.
- Coordinated with external speakers, sponsors, and partner colleges to organise technical events and inter-college competitions.
- Drafted press releases, event announcements, and post-event reports to communicate club activities to the wider RCCIIT community.

EDUCATION

RCC Institute of Technology, Kolkata

2024 – 2028

B.Tech in Electronics and Communications Engineering (CGPA: 7.5)

Beliaghata, Kolkata

ACHIEVEMENTS

Honors & Competitions | Hackathons, Business Strategy, Leadership

- Secured **Open Source Contributor** among **45,000+ applicants** at **GirlScript Summer of Code (GSSoC'26)**, organized by GirlScript Foundation.
- Participated in the **Smart Indian Hackathon** organized by **Govt. of India**, competing against **20,000+ teams**.
- Won **2nd Runners-Up** at **Tekathon 2026**, organised by Techno International Batanagar.
- Ranked among the **Top 5 participants** in the **AMD Slingshot Ideathon**, organised by Future Institute of Engineering and Management.
- Secured **2nd Runner-Up** at **ShowCaseX**, a month-long hackathon at **RCC Institute of Information Technology**, organised by GDGOC RCCIIT.
- Winner of **"Battle of Wits"**, a Strategic Debate Competition at **TechTrix (RCCIIT)**.