

# Mohak Gupta

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## EDUCATION

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- **Techno India University**, Kolkata, India  
*B.Tech in Computer Science (AI Minor)*

*July 2023 – Present*  
**CGPA: 9.35**

## EXPERIENCE

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- **Software Engineer – Valstrand** *Remote, Canada — Dec. 2025 – Present*
  - Architected and deployed a scalable **AI-powered IDX real estate platform** integrating a knowledge-base chatbot and voice agent for automated property discovery and user interaction.
  - Migrated background job processing from BullMQ to a **GCP Pub/Sub-based event-driven architecture**, improving reliability, fault tolerance, and horizontal scalability for 10k+ asynchronous events.
  - Designed and developed **CRM-style dashboards and lead management pipelines**, enabling automated lead capture, segmentation, and nurturing workflows.
  - Built **outbound voice-calling infrastructure** using cloud-managed task queues, enabling asynchronous execution and real-time monitoring via secure web interfaces.
  - Managed production-grade **GCP infrastructure**, including service deployments, environment isolation, and security configurations for scalable backend systems.
  - **Projects: Realtygenie, Airmeet, CallGenie, RealtyCRM**
- **Cybersecurity & Blockchain Lead — Google Developer Groups** *Kolkata, India — June 2024 – Nov. 2025*
  - Led hands-on workshops on **ethical hacking, reconnaissance, and vulnerability analysis**, guiding students through practical attack scenarios in controlled environments.
  - Organized and facilitated **hackathons and blockchain seminars**, mentoring participants on smart contract development and decentralized application (DApp) architecture.

## PROJECTS

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- **ChainWork – Decentralized Freelance Marketplace** *Winner – InnovoCon Hacknex 2025*
  - Developed a decentralized freelance platform using **Solidity smart contracts**, implementing escrow-based payments and secure on-chain transaction validation.
  - Engineered **real-time communication** using WebSockets with event-driven architecture to handle concurrent user interactions efficiently.
  - Built RESTful APIs with authentication and **role-based access control (RBAC)** for secure user and contract management.
  - **Stack:** React, Express, Solidity, Hardhat, Socket.io
- **LaunchT – Solana Token Launchpad**
  - Built a wallet-integrated token launch platform on Solana Devnet for creating and managing **SPL tokens**.
  - Integrated **@solana/web3.js** to handle blockchain interactions, transaction signing, and asynchronous execution flows.
  - **Stack:** TypeScript, @solana/web3.js, Next.js
- **Airmeet – AI Voice Calling Agent**
  - Developed an **AI-driven voice automation backend** integrating OpenAI APIs for real-time conversational workflows.
  - Designed a scalable system using **GCP Pub/Sub, Cloud Tasks, and Cloud Functions** to handle high-concurrency voice processing pipelines.
  - **Stack:** Next.js, OpenAI, Retell, GCP

## AWARDS & CERTIFICATIONS

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- **Runner-up – Smart India Hackathon 2023;**
- **Winner – InnovoCon Hacknex 2025**
- CompTIA PenTest+, Intermediate Git & GitHub, CNSP

## TECHNICAL SKILLS

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**Languages:** TypeScript, Python, Java, C++, Go, Rust, Solidity  
**Backend:** Node.js, Express, REST APIs, WebSockets, Microservices  
**Frontend:** React, Next.js, TailwindCSS  
**Cloud/DevOps:** GCP, Docker, Kubernetes, Pub/Sub  
**Databases:** PostgreSQL, MongoDB, Redis