

# Vasu Garg

## Full-Stack Web3 Developer

Last updated in September 2025

✉ vasug@iitbhilai.ac.in ☎ +91-9084690147 in garg-vasu 🌐 virtualvasu

## Education

### Indian Institute of Technology (IIT) Bhilai

B.Tech in Data Science and Artificial Intelligence (Expected May 2027)

CGPA: 8.71/10

Aug 2023 – Present

## Experience

### Open Source Developer

June 2025 – Aug 2025

Code for GovTech (C4GT), India

- Selected among top 81 developers from 4,000+ applicants (top 2%) for India's national open-source program for Digital Public Goods.
- Developed three production Web3 dApps — Road Incident Reporting (crypto-token rewards for verified reports), eKYC (wallet-based ID verification using **Lit Protocol**), and Invoice Encryption (government invoice security via **Lit Protocol + Storacha**) — built with **React**, **Solidity**, and **Rust**.
- Deployed and tested these applications across **Celo**, **Stellar**, and **Filecoin FVM**, ensuring multi-chain compatibility and reliability.
- Modernized 32,000+ lines legacy **SocialCalc** (spreadsheet-engine) JavaScript codebase to ES6+ modules, achieving 70%+ unit test coverage and improved system performance.
- Deployed mobile-ready APKs using **Ionic React** with MetaMask and Freightier wallet integration, extending Web3 functionality to Android users.

### Blockchain Developer Intern

Feb 2025 – Apr 2025

Indian Institute of Technology (IIT) Bhilai

- Designed and deployed a private EVM-compatible blockchain network for IIT Bhilai using Geth with **Proof-of-Authority (PoA)** consensus, scaling to 10+ operational nodes.
- Engineered a reverse proxy architecture with **NGINX** to efficiently route RPC and WebSocket traffic across distributed blockchain nodes.
- Built an integrated **network monitoring dashboard** and a **block explorer** to visualize transaction rates, gas fees, block times, total difficulty, and enable real-time lookup of transactions and smart contracts.
- Accelerated blockchain and dApp development within IIT Bhilai by providing a scalable, reliable, and production-ready private network environment.

## Projects

### TrueCert

[Github Link](#) 🔗

- Developed tamper-proof certificate verification system using **Solidity**, **IPFS**, and **Ethereum smart contracts**, reducing verification time from hours to seconds.
- Implemented **MetaMask** wallet integration and smart contract revocation logic, supporting 100+ test certificates with zero fraud incidents.
- Built the full-stack dApp using **React.js**, **Express.js**, **Hardhat**, and **Infura** for seamless on-chain interactions.

### Private Blockchain Network Monitor

[Github Link](#) 🔗

- Built a real-time monitoring dashboard and block explorer with **React.js** + **Web3.js** to track key **blockchain metrics** (block times, gas fees, validator uptime) and detect anomalies using Python analytics.
- Developed a scalable **Node.js/Flask** backend for live chain data ingestion, time-series storage, and **Prometheus**-based alerting.

## Skills

**Languages:** Solidity, Rust, JavaScript, TypeScript, Python, C++, C, SQL

**Blockchain & Web3:** Smart Contracts, IPFS, Lit Protocol, Cross-chain Development, MetaMask, Wallet Integration, Gas Optimization

**Frontend & Mobile:** React.js, Web3.js, Ethers.js, Ionic React, Responsive Design, Progressive Web Apps

**Backend & Infrastructure:** Node.js, Express.js, Python Flask, RESTful APIs, NGINX, Docker, Prometheus

**Development Tools:** Hardhat, Remix, Git, Firebase, Infura, Vercel, MySQL, MongoDB, CI/CD Pipelines