Vishal Sah

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Technical Skills

Languages: C++, C, Dart, JavaScript, Solidity, SQL, MySQL, HTML, CSS, Noir.
Developer Tools: VS Code, Android Studio, Firebase, Postman, Figma, GitHub, AWS (EC2, RDS, S3).
Databases: Firebase Firestore, MongoDB, PostgreSQL, Neo4j, SQLite.
Technologies / Frameworks: Flutter, Node.js, Express.js, Spring Boot, GetX, Bloc, Hardhat, Foundry, Ethers.js, Web3.js.
Web3 / Blockchain: Zero-knowledge, Smart Contracts (Solidity), OpenZeppelin, ERC721, ERC20, Chainlink, Lit Protocol, MPC / TEE Concepts.

Education

Gyan Ganga College of Technology	**Aug. 2021 – May 2025**
Bachelor of Technology in Computer Science Engineering	*Jabalpur, Madhya Pradesh*
CGPA : 7.61	

Projects

ProSound – Web3 Music Rental Protocol | *Solidity, Hardhat, Foundry, Node.js, IPFS, Lit Protocol, Story Protocol2*

- Designed a decentralized music rental platform where creators mint **Record NFTs** for ownership and users mint **time-bound Rental NFTs** for temporary access.
- Integrated **Story Protocol** to register creative works, generate license IDs, and manage on-chain IP metadata.
- Secured audio content using **IPFS** and **Lit Protocol**, enforcing access control via NFT ownership and rental validity.
- Implemented **Lit SessionSig-based session management** on a **TEE-backed server** to enable long-lived access without repeated wallet signatures.
- Developed and tested **gas-efficient smart contracts** using **Hardhat** and **Foundry** with a modular architecture.

x402-ratelimiter – Paid API Access & Anti-Scraping Gateway | *Node.js, TypeScript, Express.js, NGINX, OpenR*

- Designed a **domain-aware rate limiting system** serving multiple customer domains through a single dynamic **NGINX/OpenResty** configuration.
- Implemented **dynamic SSL certificate resolution** using **OpenResty** and **Lua** to securely serve HTTPS traffic for arbitrary domains.
- Enforced rate limits **only for registered domains**, preventing unauthorized access and free API scraping.
- Integrated **x402 payment middleware** to gate requests behind successful payment verification.
- Built backend services in **Node.js (TypeScript)** to manage domain registration, billing, and rate-limit policies.

Experience

Attenomics Software Engineering Intern | *Node.js, Express.js, Postgress, AWS, RDS* **April 2025 - Jul 2025**

- Developed a **RAG-based backend system** using **JavaScript (Node.js)** integrating **LLMs, LangChain**, and **PostgreSQL vector DB** for context-aware AI responses.
- Scraped and processed **Twitter data**, generated **1024-dimensional Jina embeddings**, and stored them in a vector database for efficient semantic retrieval.
- Implemented **LangChain memory** to maintain dynamic **context windows** and persist chat history between users and the AI bot.
- Deployed the system on **AWS** with optimized caching and **asynchronous job handling** for scalable, low-latency performance.

Certificates & Achievements

- AWS Academy Cloud Foundations.
- AWS Academy Cloud Architecting.
- 1st runner-up twice in the College Club Coding Contest.