

Heemank Verma

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WORK EXPERIENCE

Karnot.xyz | Rust Developer | Startup

June 2024 - Present

- Added Data Availability Provider to support data layer provision in modular blockchain architecture.
- Participated in comprehensive testing of data availability and settlement client for application blockchain.
- Created CI/CD flow for orchestration module and introduced data letter queue.

Timeswap.io | Full Stack Developer | Startup

May 2022 - June 2024

- Developed quoter **Smart Contracts** using callstatic calls, employing test-driven development and writing testing functions with Foundry (Forge).
- Re-engineered the **Protocol Interaction SDK** from ethersV5 to viemV2, achieving better types, faster transaction speed, and independent transaction integration.
- Restructured the frontend using Redux, React query, MVU architecture, improving state management and enhancing website stability and usability.
- Optimized RPCs with **multi-call algorithms**, achieving 70% faster blockchain data retrieval and enhancing user experience.
- Engineered Git Hooks and CI/CD pipeline, resulting in faster, rule-driven builds and improved project maintainability.

Foodscope.com | Product Lead | Startup

August 2023 - February 2024

- Led a team of 8 students in restructuring backends (Node.js, Spring Boot, Django), hosting to AWS with CI/CD pipelines, and reorganizing codebases with cost management using cloudwatch. Converted three Node.js-based backends from microservice to monolithic architecture.
- Spearheaded the deployment of **Elasticsearch** to meet high indexing and searching requirements, ensuring efficient database management and performance.

Respect.io | Founding Member & Tech Lead | Startup

December 2021 - May 2022

- Developed a social decentralised App enabling creators to issue tokens and fans to buy and trade them. Implemented a **Merkle tree** of NFTs using ERC1155, integrated with the frontend for user transactions.
- Achieved a milestone with successful **seed funding of over \$1M**, participating in Tachyon 22 accelerator program.

PROJECTS

RWA lending borrowing protocol

github.com/hashirWA

- Led a team of four to develop hashirWA, a **RWA lending borrowing protocol**.
- Created Smart Contracts using **Rust** and **Cosmwasm**, applied test driven development.
- Developed a JS tool to upload contracts to cosmos chain easily.

Escrow Based Payment Management Platform

github.com/RevereLabs

- Developed a winning escrow payment platform using NextJS, EthersJS, AWS, and Moralis SDK, earning a \$2000 prize in the 2022 Polygon BuidlIt Hackathon.
- Championed web 3 development and market study during a **3-month States DAO** mentorship, overseeing platform design and protocol integration.

Understanding Distributed Systems

github.com/heemankv/DSys

- Distributed Messaging Applications: Implemented gRPC for online shopping, ZeroMQ for group messaging, and RabbitMQ for video streaming (only packets transfer).
- Modified Raft Consensus Algorithm: Developed a **Raft system** for fault-tolerant key-value storage inspired by CockroachDB.
- Built a **MapReduce** framework from scratch for distributed K-means clustering on large datasets.

GS1 & MiDAS IIITD - Backend Development

- Transformed Flask monolithic architecture into microservices with Docker, optimizing server resource allocation.
- Implemented image barcode and object scanning using EasyOCR, achieving a 40% improvement in detection capabilities.

SKILLS

Computer Languages

Rust, Solidity, Typescript, Python, Elm, Golang, SQL, GraphQL, C++, HTML

Platforms & APIs

GCP & API, AWS, Firebase, Infura, Docker, Telegram APIs

Databases

MySQL, PostgreSQL, MongoDB, Redis Cache, Neo4j, Ceramic Compose, ElephantSQL

Libraries/Frameworks

Nextjs, Django, Viem, Docker, React-Query, Redux, gRPC, Redis, Flask, WebSockets

AWARDS

Pool-Bounty Winner, EthIndia, India's Biggest Web3 Hackathon - AlkyneFi

December 2022

Multi-Bounty Winner, Polygon BuidlIt Hackathon - RevereLabs

September 2022

Multi-Bounty Winner, EthIndia, India's Biggest Web3 Hackathon - CanvaSwap

December 2021

LEADERSHIP AND COMMUNITY

Club Coordinator, Byld - Development Club of IIITD, Tasveer - Photography Club of IIITD

July 2022 - July 2023

Speaker: 3 workshops, Blockchain Zero To One Workshop & Build with Push Protocol, IIITD chapter

May 2023

EDUCATION

Indraprastha Institute of Information Technology, Delhi

January 2021 - May 2024

B.Tech (Computer Science Engineering) (CGPA - 8.20)