Ishita Agarwal

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TECHNICAL SKILLS

Languages: Solidity, Python, Javascript, Typescript, Java
Frameworks: ReactJS, Node.js
Developer Tools: Git, Docker, AWS, Hardhat, Truffle, Ganache, Foundry, Pinata, FileBase, Tenderly
Libraries: Express.js, Material-UI
Databases : MongoDB, SQL (Postgres)

EXPERIENCE

DeFi Software Engineer | *GlueX Protocol*   Jan 2025 – Aug 2025
- Implemented core AMM logic, replicating mathematical models for Constant Product (**CPAMMs**) and Concentrated Liquidity (**CLAMMs**) across liquidity modules; tested/debugged with **Tenderly** to ensure accurate on-chain behavior.
- Developed and integrated a generalized APY formula for precise yield calculations, enabling accurate **true APY** and **TVL** measurement across protocols.
- Monitored and optimized the company's solver on **CowSwap**, improving performance by reducing external service calls (Node and Router) from **8000** to **1500** per auction, thereby lowering overhead and increasing execution efficiency.
- Developed an arbitrage trading bot that detected and executed profitable opportunities across decentralized exchanges using company's Router APIs.

Blockchain Developer Intern | *Simplyfi Softech*   Jul 2024 – Dec 2024
- Worked on **chain abstraction** by researching and testing **ZetaChain modules** locally to evaluate scalability, interoperability, and integration feasibility within existing architecture.
- Implemented account abstraction with intent architecture by integrating Paymaster.

Fullstack Developer Intern | *DAN Labs(prev. StreamNFT)*   Mar. 2024 – Aug. 2024
- **Built middlewares** to fetch and validate on-chain data from transaction receipts and blockchain logs, checking against stored contract data and decoding errors, function parameters, and event fragments for reliable downstream use.
- Designed and maintained a scalable **indexing pipeline**, integrating blockchain RPCs to transform raw blockchain data into structured insights for analytics and applications.
- Developed **APIs** for a user score system that tracked task performance and enabled efficient claiming and redeeming of utilities.
- Integrated tools like **Hotjar**, **Segment**, and **Discord widget** into the frontend for user engagement tracking and analytics.

PROJECTS

Decentralized Dataset Collaboration | *Solidity, ReactJS, Javascript, Node.js*, Hardhat   **Link**
- Designed and implemented a marketplace where data creators, curators, and verifiers are incentivized through a **staking-based reward model**.
- Integrated a **tokenized** workflow for uploading, enhancing, and validating datasets, which increased user participation and ensured high-quality data through transparent and aligned incentives.
- Established a **consensus**-driven quality control mechanism where verifiers stake tokens to validate datasets, significantly improving data trustworthiness and minimizing low-quality submissions.

InvoiceSME | *Solidity, NodeJS, Hardhat, Python, NextJS, Javascript*   **Link**
- Developed a decentralized invoice financing protocol enabling SMEs to tokenize invoices as **ERC-1155** assets, providing liquidity and mitigating payment delays through trust-minimized, on-chain funding mechanisms.
- Integrated **Worldcoin Orb ID** verification and **GST verification APIs** to ensure compliance, authenticate users, and prevent fraudulent borrower identities.
- Deployed an **ASI AI-driven risk assessment agent** to evaluate wallet credibility and detect anomalous patterns, enhancing investor protection and funding transparency.

Sustainable Supply Chain Dapp | *Solidity, ReactJS, Javascript, Truffle, Ganache, Tailwind CSS*   **Link**
- Developed smart contracts for tracking orders, products, and assessments within the Dapp, ensuring accurate and transparent records on the blockchain.
- Improved resource usage monitoring for **20+ sustainability metrics** with interactive charts and graphs, providing stakeholders with real-time insights.
- Integrated **Google Maps API** to track the exact origin and destination of products, enhancing transparency in the supply chain.

EDUCATION

University of Petroleum and Energy Studies   Dehradun, India
B.Tech in Computer Science and Engineering with specialization in Blockchain   *Aug. 2021 – May 2025*