SAITEJA POTTANIGARI

Senior Blockchain Engineer ◇ MSc (Informatics) ◇ Zurich, CH

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SUMMARY

Blockchain Engineer with 7+ years of experience delivering high-impact projects in the DeFi space. Expertise in Ethereum & Solana, with a strong focus on building user-friendly and scalable DeFi products. Proven ability to lead and architect innovative solutions using a developer-friendly and FOSS-based approach. Passionate about creating impactful and accessible financial products that exceed expectations and drive significant business value.

WORK EXPERIENCE

Sygnum Bank   Zurich, CH
Senior Blockchain Engineer   Aug 2023 - Present

- Leading a cross-functional team responsible for the end-to-end delivery of Solana staking solutions for a diverse client base (B2B and B2C), while maintaining 99.9% service uptime and ensuring adherence to security, scalability, and observability KPIs.

- Led the development and implementation of critical enhancements to ETH staking, including enabling withdrawals and unstaking via Voluntary Exit Messages. These enhancements enabled one of the largest Swiss financial institutions to offer staking services to its 2.5 million customers.

- Improved blockchain indexing efficiency by migrating from resource-intensive JSON-RPC calls to a highly optimized Graph Subgraph. This transition resulted in a 99% reduction in database reads and JSON-RPC calls. Further enhanced event listening performance and user experience by integrating QuickNode Streams, enabling real-time event delivery via webhooks and eliminating constant polling.

- Engineered the smart contract infrastructure for Matter Labs' tokenized assets on zkSync, establishing a Proof-of-Reserves system with Chainlink oracle integration for real-time NAV. This enabled a landmark integration with Fidelity's Institutional Liquidity Fund, advancing tokenized finance. Conducted a comprehensive internal security smart contract audit of the Safe Recovery Module.

Blockchain Engineer *(part-time)*   Jul 2021 - Aug 2023

- Played a pivotal role in enhancing the regulated ETH staking experience for B2C clients, resulting in over 40,000 ETH securely staked.

- Built a custom script for MPC-based (Fireblocks) staking solutions to support on-demand staking/unstaking of Cosmos, Polygon, and Tezos, enabling clients to stake over $200+ million.

- Played as an on-chain researcher role, analyzing the use cases of liquid staking, Rocket Pool staking, and DVT staking for Ethereum. Also analyzed and onboarded node RPC providers and validator infrastructure providers, resulting in a 70% reduction in infrastructure costs.

- Ensured the ongoing maintenance and security of tokenized asset smart contracts by upgrading to Solidity v6 and then v8, transitioning the development environment to a Hardhat and then to Foundry stack, and establishing a secure mainnet deployment pipeline using Gnosis Safe multi-signature wallets for consistent ownership and simplified key management. Performed audits of NFT smart contracts

Freelancer   *Remote*
StakeKit   May 2023 - Aug 2023

- Implemented cross-chain swaps and bridges (one-hop and two-hop) via Bridge and Swap aggregators, constructing such as LiFi and Socket, constructing transactions multi-chain networks and exposing a REST API for easy integration with mobile wallets like Omni and Zerion.

- Developed and had audited a router contract implementing a fee collection mechanism prior to routing to DeFi positions or strategies.

Omni (formerly Steakwallet)   Jan 2022 - May 2023

- Developed the backend infrastructure for a mobile wallet, enabling seamless multi-chain Web3 integration and facilitating one-click deposits into DeFi positions.

- Extended the wallet's multi-chain signing capabilities from mnemonic-based to hardware wallets (e.g., Ledger Nano) via Bluetooth. Migrated the wallet from WalletConnect V1 to V2.

UZH Blockchain Center   Nov 2022 - Dec 2022

- Designed and led a university project that delivered Christmas greeting NFTs to over 300 UZH students and staff. Enabled users to create personalized star designs, upload them to IPFS, and mint them as NFTs. Also, Created a private Ethereum Proof-of-Stake (PoS) network for the university to facilitate on-chain analysis with no entry or exit barriers. Developed and deployed a simple ERC-1155 NFT contract for minting the greeting cards.

ETH Zurich *Zurich, CH*
Research Assistant Jan 2020 - Jun 2021

- Developed sentiment analysis, article summarization, and structured topic modeling models using neural networks and transformers for natural language processing tasks. Developed web crawlers to collect data from Twitter, LinkedIn, and Crunchbase, supporting data scraping, cleaning, and structuring for research.

Accenture *Hyderabad, IN*
Software Engineer Nov 2016 - Aug 2019

- Developed and supported a Test Data Management system for multiple test environments using PL/SQL scripts.
- Developed test automation scripts in Selenium (Java) and Sikuli for UPC Schweiz.

SKILLS

Blockchain	Solidity, Cairo, Ethereum Core Consensus, web3js, ethers, libp2p, cosmjs, solana-web3js
Machine Learning	Sequential models, Transformers, Multivariate regressors with timeseries and Auto-encoders
Programming Languages	Javascript, TypeScript, Python, Rust, Matlab, Go, C
Frameworks	Hardhat, Anchor, Foundry, NestJs, Truffle, React, Nuxt, Pytorch, Tensorflow 2.0
DevOps & other tools	Kubernetes, Grafana, Prometheus, Openshift, Docker, Terraform , Git, CI/CD pipeline, Camunda, Zeebe, Redis, Kafka, Jira, Confluence

EDUCATION

Master of Science in Informatics — Data Science, CGPA: **5.1/6.0**,   **2019 - 2023**
University of Zurich, Zurich, Switzerland
Minors in Banking and Finance

Bachelor of Engineering — Electronics , CGPA: **7.1/10.0**,   **2012 - 2016**
Osmania University, Hyderabad, India

CERTIFICATION

Certified Smart Contract Auditor   **Jan 2024**
Blockchain Council
Credential ID: 92638722

PROJECTS

Agent Based Modeling Ethereum PoS Consensus *Master Thesis* [Github Link](#)
Developed a stochastic model to perform agent based modelling of the Ethereum to measure latencies impact on the block creation, attestation accounting, and observe the evolution of the PoS consensus. Also, performed analytics for Ex-Ante ReOrg attack vector and tested the mitigation Proposer Vote Boosting effectiveness in alleviating the Ex-Ante ReOrgs.

BrowserBook (Non-custodial Browser-based OrderBook DEX) *Master Project* [Github Link](#)
Built a completely decentralized token exchange platform hosted on IPFS and smart contracts on Polygon's POS sidechain. In our DEX architecture, we have connected the user browser using WEBRTC and added them as our P2P network participant. Later, the DEX facilitates orderbook maintained in Indexed DB in browser and orders were matched using multi-threaded Web Workers in browser.

Quantative Models *Coursework* [Github Link](#)
Developed a time series model utilizing CNN with sliding window technique and autoencoder to incorporate CPI and seasonality factors for predicting entry and exit points in the S&P 500 index. Performance evaluated and Sharpe ratios calculated for the incorporated trading strategies.

PERSONAL ENDEAVORS

- Running and maintaining my own Gnosis and DVT based ETH validator node.
- Hosting personal VPN, NAS and Password Managers
- Built a UX friendly EVM multi-chain transaction submission: https://tools.simpleweb3.ch