VIJVAL SHAH

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LinkedIn Profile
GitHub Profile

TECHNICAL SKILLS

- **Smart Contract Development**
  Smart Contracts: Solidity, Rust, Hardhat, Truffle, EVM (Gas Optimization, EIP Standards: ERC-20/721/1155/725/735)
  ZKPs & Privacy: zk-SNARKs, Circom, Groth16, PLONK, SSI (W3C DIDs, Verifiable Credentials)
  Web3 Tooling: web3.js/ethers.js, Infura/Alchemy, Chainlink, Layer Zero, IPFS/Arweave
  Security: Auditing (Chai/Mocha), Access Control (Ownable/RBAC), MetaMask Auth

- **Development & infrastructure**
  Frontend: Java Script, React Native, Next.js,HTML, CSS/SCSS
  Backend: C/C++, Java, Python, Node.js
  Database Management: PostgreSQL, SQLite, MongoDB
  Version Control: Git, GitHub, GitLab
  Project Management: Notion, OpenProject, SonarQube
  AI/ML: OpenCV, NumPy, Panda, TensorFlow/ PyTorch

PROJECT

WINNER Defy'25 – *Top among 170 Teams*

SoulMesh | *Solidity, JavaScript, Next.js, Node.js, IPFS, zk-SNARKs*

- Developed and deployed Ethereum smart contracts using **Solidity** implementing **ERC-1155, ERC-725,ERC-735** standards. And **Soulbound Tokens (SBTs**) for secure, non-transferable digital identity representation.
- Designed and implemented a **two-layer RSA-based zero-knowledge proof (ZKP)** system to authenticate user credentials without exposing sensitive information.
- Engineered the frontend interface with **Next.js**, integrating **Web3.js** to facilitate seamless interaction with blockchain networks.
- Implemented **IPFS** for decentralized storage and **zk-SNARKs** for privacy-preserving verification.

Winner – I Love Hackathon, (Bangkok-India Edition)

Vyapaar *| Solidity, Hardhat, zk-SNARKs, ERC-725, ERC-1155, IPFS, MongoDB, Python, AI-driven Risk Assessment*

- Built blockchain VC marketplace with P2P equity trading **(ERC-20/1155 tokenization)** and **DAO governance** for voting.
- Designed automated price discovery and **revenue-sharing smart contracts** with vesting schedules.
- Implemented hybrid storage: on-chain transparency (IPFS) + off-chain scalability (MongoDB).
- Developed AI risk engine using **XGBoost feature selection, GAN/LSTM viability prediction, and Monte Carlo simulations** .

Prayog- AI-Powered Virtual Lab | *Solidity, JavaScript, Next.js, Node.js, IPFS, TensorFlow, OpenCV*

- Developed and Deployed **Ethereum smart contracts** for decentralized Labs , ensuring **immutable experiment records** and data integrity
- Built **TensorFlow/OpenCV models** for real-time experiment monitoring with **90% anomaly detection accuracy** .
- Engineered **Next.js frontend** with **Web3.js integration** for real-time blockchain interactions and experiment tracking.
- Implemented **IPFS** for decentralized storage of experimental data/resources.

EXPERIENCE

Events Head
CYSCOM -AICTE Recognised chapter
June, 2024 – July, 2024

- Organized VMEDITHON in collaboration with 40 Startups from Yenepoya Incubation Centre
- As a cybersecurity chapter build hosted CTF competitions with over 400 students participating across the country

Research intern
Centre for nanotechnology and VLSI design
June, 2024 – July, 2024
*Project: Designed a **32-bit** 5-Stage Pipelined **RISC-V Processor***

- Engineered a **32-bit RV32I processor** with a 5-stage pipeline (IF, ID, EX, MEM, WB), including datapath and control units.
- Implemented hazard detection and data forwarding to achieve a CPI of ~1.25.
- Modeled and simulated using **SystemVerilog/VHDL (ModelSim),** synthesized with Cadence (2.5 GHz).
- Conducted performance and critical path delay analysis.
- Enhanced VLSI/ASIC proficiency through design and documentation.

Project Lead

Evteria
June, 2024 – July, 2024

- **Winner Charegathon'24**
  IIT Madras Carbon Zero Challenge – Top 10 Team
- Leading Evteria's way to develop a compact and user-friendly solution that revolutionizes the charging process. Reducing CO2 emissions and creating a sustainable energy ecosystem. Pioneering the creation of new age Dynamic Wireless charging System. Developed **a novel Software prototype** (Simulink), and custom coil design.
- Build **blockchain-based charging system** for electric vehicles (EVs) utilizes blockchain technology to enhance security, transparency, and efficiency in charging transactions and billing, offering a decentralized and potentially more secure alternative to traditional system

EDUCATION

Vellore Institute of Technology Chennai, India

Bachelor of Technology in Computer Science and Engineering with Specialization in Artificial Intelligence and Robotics
Sep. 2023– Present
9.11(1st year)

CO-CURRICULAR

OLabs Hackathon (Ministry of education and Amrita University)

- Finalist
- Developed a Prayog- combining **Retrieval-Augmented Generation (RAG)** and large language models (LLM)—to provide real-time, tailored guidance that addresses individual learning gaps.
- Hardhat, ethers.js, @nomicfoundation/hardhat-toolbox, Pinata, IPFS, Node.js, TypeScript, FAISS, Sentence-BERT, GPT-4/BART/T5, Graphviz

C5i Intern Finalist

- Developed a cutting-edge **Natural Language Processing (NLP) pipeline** for **Open ended survey verification and consistency analysis** using **BART (MNLI fine-tuned)**, enhancing **logical reasoning, contextual understanding, and classification accuracy**.