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Profile

I am a Senior Software Engineer specialized in Blockchain technology with 10 years of experience as CTO, HoD, Lead/Senior Blockchain Engineer in multiple Web3 startups/projects in Smart contract, Protocol & Backend in DeFi, NFT, Gaming, DePIN, etc. I hold development experience in multiple protocols like EVM, EOSIO, Substrate, Solana; contributed in many open-source projects as well.

I have consistently delivered high-quality work across multiple projects. Despite facing challenges like funding issues or μ -management style in the past, my focus on producing stellar results has remained unwavering.



Experience

10 years



Education

2014 – B.Tech in Avionics, IIST, Trivandrum



Coding Languages

Rust, Solidity, TypeScript, Python, C++

Achievements

- Contributed to Opensource projects: [Subspace](#), [LayerZero](#), [STARK Winterfell](#), [Uniswap v2](#), [OpenZeppelin](#), [Telos Blockchain](#), [STFX \(Perpetual\)](#), [Substrate Runtime](#) & [SC ink lang](#), [Rustlings](#), [Sui](#).
- Developed [Polygon's native stablecoin](#) (DeFi) using a multi-collateral CDP approach, incentivized staking to prevent liquidation, informed by research into MakerDAO, Liquity and Yeti Finance.
- Bagged [2nd rank](#) in SNI Hack 2021 competition as EOSIO Blockchain Developer (also Presenter) for a project "[Seven.Parks](#)".
- Built the architecture of GameFi project – "[Bowled.io](#)" with play-to-earn Game-Fi intent using different types of cards as NFT categories.
- Represented [DRIFE](#) as CTO at WBS in 2018, where it ranked as best start-up in utility tokens category. Later, it received [UNESCO](#) award for its innovation in 2022.

Career Timeline

Aug 2024 – Present | Founder @ UniFi — The Gasless Payment rail for Stablecoins

- Researched & developed a novel highly scalable [EVM Gasless Execution Engine](#) lowering on-chain fees by upto ↓84% supporting both custodial/non-custodial wallets, keeping assets on L1 with no asset migration, instant finality. | Rust, Solidity, MongoDB, Redis, PubSub.
- Building a permissionless gas relayer network — "[Pulse](#)" (on top of [Reth](#)) for routing payments from sequencer to chain | Rust.
- Developed & deployed a secure, gas-optimized [BundlePay](#) smart contract (with tests) for handling payments from custodial & non-custodial wallets | Foundry, Solidity.
- Built a secure custodial [wallet architecture](#) with HD key derivation from a master seed, per-user derivation paths, custom key rotation, and decoupled encrypted key storage with obfuscation | Rust.
- Built a Docker-based CI/CD pipeline to deploy infrastructure seamlessly across ARM and x86 (Intel) environments.
- Built a scalable API-as-a-Service for builders to access low-cost gasless payment infra, auth, wallet, ... Released [developer-kit](#) | Rust.
- Designed and developed a modern, high-performance [WASM web app](#) with a clean, responsive UI using Tailwind CSS & ([Dioxus](#)) Rust.
- Built a native Auth module with secure OTP generation, 2FA setup, and JWT-based access control | Rust.
- Developed & deployed the [Backend with API, Proxy servers](#) (in Axum, ..); native modules — Auth, Payment, Wallet, Support. | Rust.
- Built the interactive [Telegram Bot](#) with integrated mini-app. | Rust.

Oct 2023 – Jul 2024 | Solidity Engineer @ Subspace Labs (now Autonomys) | Full-time

- [Load testing of Subspace's EVM domain](#) in Async Rust & different Solidity contracts having low to high gas-consuming functions for sending transactions on-chain with custom load value; created Solidity repository monorepo for community.
- Built a native [cross-chain bridge](#) based on custom LZ contracts between Subspace's EVM and other EVM chains using Solidity & TypeScript; also, extensive Foundry unit & integration testing done; found [security vulnerability](#) & raised a [bug bounty report](#).
- Did some work on [ZK-based Identity solution](#) for native product using TypeScript & Solidity.
- ETA Prediction of probabilistic farming reward for a Subspace farmer; released [custom GTK4 FE component](#) for Space Acres in Rust.
- [Plagiarism detection](#) on text embeddings via LSH random projection with Python & Rust.
- Worked on SDK development featuring [PKI-based identity for Autonomys](#); Built a community telegram bot using Rust.

Jun – Sep 2023 | Self

- As [Coursera Instructor](#), released a GP on "Target proximity game & food delivery proximity app using Rust"
- Built a Rock-Paper-Scissors game using [commit-reveal cryptography](#) in Rust.
- Developed Bank [pallet for substrate](#) chain featuring traditional staking features like fixed, recurring deposits in Rust.
- Built [Revealable Stakeable Dynamic On-chain NFT](#) for EVM chain; developed concurrent RESTful APIs using Rust Actix web framework.

Nov 2022 – Jun 2023 | Head of Blockchain Department @ Rapid Innovation | Full-time

- R&D on ZKP algorithms, Project lead for building ZKP module with [zkSNARK](#) for Fuel Blockchain using Circom, Rust, Cairo (zkSTARK).
- R&D on Cross-chain messaging protocols like Substrate XCMP, Axelar GMP to enable a web3 project support multi-chain.
- Have worked on DeFi [auto-compounding](#) vault based on Tetu protocol using Foundry with contracts & scripts written using Solidity.
- Engineering Architect for NFT marketplace projects like Xstrela, VTR Connect, TGE projects like Orasis with extensive research on custom wallet development.
- Audited the Projects' Solidity & Rust codebase for security vulnerabilities, code optimization, testing, documentation.
- Collaborated on the Xstrela project, building scalable, thread-safe APIs using the [Actix-web](#) framework in Rust.
- Upgrade the foundation stone for the blockchain department considering latest evolution in terms of SC security & Gas optimization techniques, Use of [Foundry tool](#), [Fuzz testing](#). Periodic leadership on the project estimation on RFP received from several major clients.

May 2022 – Oct 2022 | Senior Smart Contract Backend Engineer @ Upside | Full-time

- Collaborated with auditors from [Quantstamp](#), Certik, Omniscia on Token, Vesting, Staking Solidity smart contracts for clients including Metacraft, Delysium, and Zedrun, etc.
- Designed AMM & Developed smart contracts for DeFi DEX - "Bioform" with MIT using their free-energy based parametrized model.
- While writing smart contracts, I ensured testing, deployment scripts, flattening, verification, fuzzy-testing, gas optimization (using Yul, Solidity), contract-size optimization of smart contracts using Truffle, Hardhat, [Foundry](#) tools before deploying to mainnet, testnet.
- Co-developed and led 'Zippy' TGE tool project, crafting architecture with whitepaper, built REST APIs with NextJS, and conducting API tests via data mocking and integrated Swagger UI; also managed Firebase's NoSQL & SQL databases. Proficient in React and Redux.
- Implemented CI/CD via GitHub Actions and Docker for automated testing and repository packaging, respectively.

Dec 2021 – May 2022 | CTO @ Theia Finance | Part-time

- Architected a modular, upgradeable DeFi platform and smart contract system leveraging [ERC-2535 Diamond Standard](#). Also crafted a DAO-governed crowdfunding platform based on bonding curves; also featured an option of collective formation by top investors.
- Drove product iterations and custom token faucet trials, boosting Discord community from [300 to 30k](#), while managing database scalability for concurrent usage.
- Engaged in product design deliberations, whitepaper composition, and provided extensive hands-on guidance for full-stack and blockchain development to the team.
- Researched [cross-chain](#) capabilities via Layerzero and Axelar projects, including engaging in technical discourse on Axelar's features.
- Collaboratively wrote and audited solidity smart contracts, enhancing security, optimizing gas use, and minimizing contract size.

Nov 2021 – Mar 2022 | Senior Blockchain Engineer @ Master Ventures | Part-time

- Collaborated on translating an EVM crowdsale smart contract from Solidity to Solana using Rust language; also documented.
- Played a key role in the launch of the native Polkadot parachain, 'Paidchain,' leveraging [Substrate](#), [Cumulus](#) repositories, and CLI tools for network launch.
- Evaluated Paidchain deployment by executing a sample EVM smart contract development lifecycle via Hardhat; also documented.

Jul 2021 – Sep 2021 | Lead Blockchain Developer @ Boot Finance | Full-time

- Conducted extensive research on Uniswap, Curve, and Saddle to write smart contracts for a DEX, utilizing native CustomSwap AMM and liaised with a Quant researcher.
- Developed robust test cases with Hardhat Typescript for the smart contracts – DEX, Vesting, Token.
- Leveraged data wrangling techniques to categorize and modify user token allocations within GSheets; wrote API scripts for file upload.
- Explored the Aave protocol in order to add lending/borrowing feature on top of the platform.

Jan 2019 – Jun 2021 | Freelancing as Web3 Full-stack Engineer | Full-time

- Developed on-chain and off-chain NFT projects using ERC721, ERC1155 standards, and NodeJS, Solidity, Hardhat. Automated deployment of Dynamic NFTs to IPFS, Arweave.
- Worked on diverse EVM smart contract projects related to ERC20 Token's variants, Vault, Staking, NFT Marketplace, Auction for clients.
- Worked on diverse EOSIO smart contract projects - [GPK.Battles](#) (Betting game with RNG Oracle), Tipping, ICO (single/multi phases), Staking, Vault using C/C++, JavaScript/TypeScript.
- Developed three [Telegram Bots](#) (Tipping, KYC, Quiz) using EOSIO smart contracts and integrating Heroku Redis databases.
- Developed 'Autoplot,' a CLI-based data visualization software leveraged in the [Indian Space Programme](#) for comprehensive analytics based on parsed Excel data; using python language.
- Worked on numerous data wrangling projects in the semiconductor industry using Python and Rust; developed custom scripts.

Feb 2018 – Dec 2018 | Founding CTO @ DRIFE | Full-time

- Developed Ride-sharing smart contracts suite for EOSIO blockchains using C++.
- Established an interdisciplinary team for engineering, sales, marketing, and content creation.
- Designed & Formulated tokenomics and revenue model for zero-fee rides feasibility.
- Authored technical whitepaper outlining governance, economics, and technology pillars & platform architecture and product workflow.
- Presented at the WBS event and successfully pitched to ~ 35 investors, resulting in recognition as one of the most innovative projects.

Sep 2016 – Jan 2018 | Freelancing as Web3 Full-stack Engineer | Full-time

- As a full-stack developer, I created an Android App - "[BitInfoCoin](#)" for web3 space to provide crypto related services like show nearby crypto ATMs, exchanges, crypto price, news feed.
- Extensive research into Steem blockchain's Tokenomics model & deep dived into EOS blockchain codebase. Wrote several contracts using C++; also written test scripts; deployment using CLI.
- Recognized as a leading technical content creator for the Utopian developer community on the Steem Blockchain; also researched their consensus algorithm – 'Proof of Brain'.

Sep 2014 – Sep 2016 | Scientist/Engineer @ ISRO | Full-time

- Worked in field of "Dry Etching" in 8-inch foundry for fabrication of CMOS, ASIC devices.
- Developed a command-line interface (CLI) application in Python for automated analysis of large-scale data (QC, production) collected from foundry machines.