

Walter Fowler

AI & Web3 Developer

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PROFESSIONAL EXPERIENCE

Entangle Labs, *AI/Web3 Engineer*

Sep 2020 – present

- **Architected and implemented complex Solidity smart contracts** for a decentralized lending and borrowing platform, including:
 - **Collateral management contracts:** Enabled users to deposit multiple ERC-20 tokens as collateral, with dynamic LTV (Loan-to-Value) ratios and real-time health factor calculations.
 - **Interest rate model contracts:** Developed variable and stable interest rate models, allowing protocol governance to adjust parameters via on-chain proposals.
 - **Liquidation engine:** Coded automated liquidation logic that triggers partial or full collateral liquidation when user positions fall below safety thresholds, integrating flash loan support for efficient liquidations.
- Wrote smart contracts in **Solidity, Rust**, Hardhat/Truffle, Foundry and Anchor for Cross-Chain **DEX** Platform on **EVM, Solana and Cosmos** networks with **LayerZero** and **IBC** protocol.
- **Engineered a custom yield farming mechanism** that distributed governance tokens based on user liquidity provision, with anti-whale and anti-bot measures (vesting schedules, time locks, and gas cost optimizations).
- Composed with **Uniswap V3 and Curve** for on-chain swaps and liquidity management, using low-level calls and custom router contracts.
- Interfaced with **Aave and Compound** for yield optimization strategies, handling tokenized positions (aTokens, cTokens) and reward harvesting.
- Developed **perpetual markets** designed to provide a decentralized trading environment with advanced features such as **leveraged trading**, liquidity provisioning, meta transactions and various risk management tools.
- Conducted secure smart contract **audits** within the team and with external auditing companies.
- Design and implement an adaptive **AI system** that evolves dynamically through reinforcement learning and user interactions integrated with **real-time blockchain** data using **TensorFlow** and **PyTorch**.
- Developed smart contracts and backend logic to tokenize **real-world assets** such as real estate and commodities, enabling on-chain ownership, transfer, and compliance with regulatory standards.
- Designed and implemented in-**game** economies, NFT assets, and reward systems using smart contracts, ensuring secure and transparent **gameplay** experiences on blockchain networks.
- Built **decentralized identity wallets** that allow users to securely manage credentials, perform on-chain authentication, and interact with dApps while maintaining privacy and control over personal data.
- Collaborated with UI/UX designers to write pixel-perfect and optimized **frontend** code with **React.js**, Typescript, Next.js, Vue.js and Redux.
- Integrated web3 features using **Web3.js**, Ethers.js, solana/web3.js and cosmjs modules.
- Developed **backend** server using **Node.js**, PostgreSQL, MongoDB and Typescript.
- Implemented **CI/CD Pipeline** and improved **backend performance**, ensuring that code is released efficiently and with a high degree of quality using **AWS EC2**, ECS, ECR, NLB, ASG, Codepipeline, **Docker**, K8s, Grafana, Github Action and other services.

- Wrote secure unit, integration and e2e **tests** for 95% code coverage with Jest, Cypress, Chai and Echidna(fuzz testing).

Kreativstorm, *Web3 Developer*

Sep 2018 – Sep 2020

- Starting a career in the web3 industry with a startup team was fun and exciting,
- Here I've learned web3 basics/best practices and how to adapt and work in a fast-paced startup industry and company environment.
- Participated in building NFT-marketplace using ERC20, ERC721 and ERC1155 tokens using **Solidity** on Ethereum.
- Developed and deployed smart contracts for Defi platform with **lending/borrowing** capabilities using **Solidity** and **Hardhat**.
- Developed contracts for crypto payment gateway system for on/off ramping of crypto/fiat.
- Used slither for audit.
- Integrated blockchain capabilities into decentralized applications (**dApps**) using **Web3.js** and **Ethers.js**, ensuring secure transactions and interactions with **smart contracts**.
- Significantly **reduced page loading times** to **40%** and increased UX with latest technologies like lazy loading, skeleton components, browser caching and optimized images.
- Played an **active** role in shaping the **frontend architecture**, designing components that are both **scalable** and **modular**.
- Used **efficient** state management techniques and optimized performance for **fast** development and future **scalability**.
- Implemented server-side rendering (**SSR**) with **Next.js**, improving website performance by reducing initial load times and enhancing **SEO**.
- Developed **backend** apis with Nest.js and GraphQL.
- Used MySQL and Redis for **DB**.
- Integrated various chain **rpc endpoints** for fetching analytic data for the platform.
- Set up a **serverless** microservice by using AWS Lambda functions.
- Spearheaded the design and implementation of a highly efficient **CI/CD pipeline** by leveraging GitHub Actions.
- Designed and implemented scalable and resilient **cloud solutions** on AWS, leveraging services such as EC2, S3, Lambda, and RDS.
- Actively participated in over 100 code reviews and adhered to Test Driven Development (**TDD**) principles to ensure high code quality.
- Mentored junior developers on best practices for writing maintainable and scalable code during code reviews, resulting in improved code quality and reduced technical debt.

Blackwing.fi, *Fullstack Developer*

Apr 2016 – Aug 2018

- Collaborated with cross functional teams for a Skinnable and Scalable Payment System with above 93% product satisfaction reviews.
- Developed several Web applications for different industry customers like Game, Insurance, **Finance** with **MERN** stack(MongoDB, Express.js, **React.js**, Node.js) and **Web3**.
- Implemented a comprehensive testing strategy for a large-scale ecommerce application, resulting in a 30% reduction in production bugs and increased customer satisfaction.
- Built cloud native architecture using **AWS Lambda**, **API Gateway**, **AWS CloudFormation**, and **AWS S3**.
- Developed and managed cloud VMs with **AWS EC2** command line clients and management console.
- Designed and implemented a secure database architecture using **PostgreSQL**, ensuring data privacy and compliance with industry regulations.

EDUCATION

University of Oregon,
Bachelor's Degree in Computer Science

2011