ZHIWEN HUANG

Software Engineer

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EXPERIENCE

Software Engineer III

Synapse — 03/2022 - 06/2022

Enabled companies to build and launch best-in-class financial products

- Built and deployed Ethereum nodes on AWS for company financial applications, enabling seamless integration with the Ethereum blockchain for secure and efficient transactions
- Developed a multi-chain custodial wallet supporting Ethereum, Solana, and Polygon, empowering users to trade seamlessly across these platforms
- Created a Terraform script to automate the deployment and management of a Polygon node on AWS, improving infrastructure scalability and reliability
- Designed and implemented detailed diagrams to outline the trade functionality of an Ethereum-based financial application, enhancing system transparency and supporting business decision-making

Blockchain Engineer

Ice Red — 11/2021 - 01/2022

Developed a social metaverse app integrated with blockchain technology

- Developed a custom ERC-20 token with admin-controlled minting functionality, enabling cost-efficient token minting based on specific conditions met within a mobile application
- Designed and implemented Solidity smart contracts and backend services for an NFT exchange platform, facilitating user message signing for NFT listings and supporting lazy minting for efficient transaction handling
- Integrated the NFT marketplace backend with the blockchain, ensuring smooth interaction with Ethereum and storing blockchain transaction data and signed messages in MongoDB for improved reliability and tracking
- Conducted research on building a centralized crypto exchange supporting Bitcoin, Ethereum, ERC-20 tokens, and Icered tokens, contributing to strategic planning and technical architecture
- Utilized Docker to configure and maintain consistent development and testing environments, streamlining workflows and ensuring reliable deployment

Blockchain Engineer

Darwins — 06/2021 - 11/2021 — Irvine, CA

Built Web3 applications connecting users to decentralized platforms

- Developed an ERC-721 smart contract for user rewards, incorporating a lazy minting feature to enable token redemption at a later time, optimizing token distribution for users
- Led the transition from layer-1 to layer-2 smart contract architecture, implementing batch transaction solutions to enhance scalability and reduce transaction costs
- Designed and implemented front-end, back-end, and blockchain features in a decentralized finance (DeFi) application, ensuring seamless integration with blockchain systems
- Built decentralized and centralized ERC-721 smart contracts, including buy-sell, auction, and offer contracts, to provide efficient trading experiences.
- Developed Angular 2 frontend components and backend services using TypeScript and Hapi, creating robust API routes for seamless communication between the front-end and blockchain
- Integrated MongoDB to gather and store data from blockchain interactions, ensuring effective data management for server updates and transaction tracking
- Created a smart contract for a generative art NFT collection consisting of 7,000 unique images, known as Cultiez, which are currently available for purchase on OpenSea. Explore the collection at cultiez.com

SUMMARY

With over 8 years of development experience, I specialize in software and full stack development, including building cryptocurrency exchanges, NFT marketplaces, decentralized applications, and other software solutions. I have expertise in Angular, React, Solidity smart contracts, ERC-20 tokens, ERC-721 tokens, API development, and MongoDB. My personal projects include a decentralized exchange, React Native apps, a decentralized file storage platform, and an Ethereum framework. I'm passionate about leveraging cutting-edge technologies to create scalable, efficient solutions in software development.

PROGRAMMING SCHOOL

Software Engineering Immersive Program

Codesmith

SKILLS

Programming Languages: JavaScript, TypeScript, Python, Ruby, C++, Go, Rust
Frameworks & Libraries: React, Angular, React Native, Django, Express.js, Node.js, Redux, jQuery, Hapi, Tailwind CSS, Next.js, GraphQL
Blockchain Technologies: Ethereum, Solidity, Truffle, Hardhat, web3.js, ethers.js, Wagmi, IPFS, Solana, Polygon, Layer-2
Development Tools: AWS, Docker, Electron, Webpack, Mocha, Chai, Gulp, Jest, Terraform, TDD (Test-Driven Development)
Databases: MongoDB, PostgreSQL
Web Development: HTML, CSS, SASS, WebSockets, WebRTC
Other Tools: Git, Linux, Agile/Scrum,
Design & Visualization: d3.js

PROJECTS

Dex

A decentralized exchange for Ethereum ERC-20 tokens

- Developed a Solidity smart contract using Truffle to facilitate decentralized token trading, optimizing gas fees to ensure cost-efficiency and a seamless user experience
- Built a dynamic front-end with React that pulls real-time data from the blockchain, enabling users to view, search for, and cancel trades, with an intuitive and responsive interface
- Integrated wallet support using Wagmi, connecting to Metamask and WalletConnect

Delib

A simple Ethereum framework for Dapps and smart contract management

- Built a flexible Ethereum framework using Node.js, enabling developers to easily interact with smart contracts via the command line and streamline decentralized app development
- Implemented automatic Ethereum gas estimation for transactions by encoding constructor parameters during contract deployment
- Created comprehensive documentation for the framework

EXPERIENCE

Backend Developer

Halo Platform — 05/2018 - 08/2018

Contributed to a robust cryptocurrency management platform

- Researched and implemented the Ox Protocol to develop a decentralized exchange, enhancing the platform's ability to facilitate peer-to-peer trading of cryptocurrencies
- Contributed to the development of a cryptocurrency exchange using with an emphasis on performance and security
- Created comprehensive unit and integration tests with Mocha and Chai, ensuring the reliability and stability of the exchange's core functions and processes
- Led application updates and feature enhancements within an Agile and Scrum environment, driving fast-paced software iterations and continuous improvement

Lab Technician

Florida Biologix — 03/2015 - 08/2015

Contributed to the upstream manufacturing of viral vectors in a cGMP environment.

- Played a key role in upstream manufacturing of viral vectors for clinical trials, managing processes with up to 400L of suspension cell cultures within cGMP-compliant cleanroom environments.
- Led the integration of external airflow meters into cleanroom bioreactors, ensuring enhanced process verification and optimization during critical production runs.
- Developed and refined standard operating procedures (SOPs) and production batch records for new processes and equipment, driving operational efficiency and compliance with regulatory standards.

EDUCATION

Bachelor of Science in Mechanical Engineering

University of Florida — 08/2010 - 12/2014 — Gainesville, FL

- Relevant Coursework: C++ Programming, Computer Programming for Engineers: MATLAB
- Completed coursework in engineering principles, problem-solving, and applied mathematics. Developed a strong analytical foundation that supports technical problem-solving in software development

PROJECTS

League of Legends Cooldown Tracker

A React Native IOS and Android mobile application that tracks cooldowns in the game League of Legends

- Developed a React Native application that efficiently manages state changes and prop transfers, supporting over 30 customizable timers per session and 100+ game champions
- Designed a user-friendly interface (UI) that allows players to easily adjust timer actions, ability levels, and cooldowns, enhancing gameplay efficiency and customization
- Built a backend using Express.js and Heroku to handle automatic League of Legends version updates, ensuring up-to-date game data and API calls with enhanced security for API key management

Google Music Visualizer

A Chrome extension that visualizes audio frequencies on the former website Google Play Music

- Converted an audio stream into the frequency domain using JavaScript, the Web Audio API, and Fast Fourier Transforms (FFT) to create a dynamic, real-time audio visualizer
- Designed visually engaging color themes for the visualizer bars using D3.js, enhancing the user experience and making the visual display more interactive and aesthetically appealing
- Iterated based on feedback from over 7,000 users, adding new features like local storage for user settings and implementing bug fixes in response to changes in the Google Play Music website