Robert Wang

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**SUMMARY**

Highly skilled Senior Blockchain Engineer with over 6 years of software development experience, including 4 years of deep specialization in blockchain technologies. Expertise in building secure, scalable blockchain solutions with a strong command of smart contracts, Web3 technologies, and Solidity programming. Proficient in blockchain protocols, consensus mechanisms, and advanced techniques like Merkle Tree Data Storage. Proven ability to develop robust, high-performance blockchain applications, delivering projects on time and within budget. A collaborative team player with a passion for driving innovation in the crypto ecosystem.

**SKILLS SUMMARY**

* Developed smart contracts and DApps on various EVM-compatible blockchain platforms, including Ethereum, Binance Smart Chain, Polygon, and Blast.
* Built and maintained web applications and websites for blockchain and decentralized technologies using frameworks like React and Next.js.
* Skilled in JavaScript frameworks, including Node.js, Express.js, React, and Next.js.
* Managed application state effectively using state management libraries like Redux and Jotai.
* Strong proficiency in Web3 technologies and frameworks, such as Web3.js and Ethers.js, for interfacing with decentralized networks and protocols.
* Seamlessly integrated front-end and back-end components with blockchain ecosystems using modern wallet connect frameworks like RainbowKit, Wagmi, Viem, and useOnboard.
* Extensive experience in project development within diverse crypto ecosystems, including DeFi, P2E, NFTs, and DAOs.
* In-depth knowledge of EVM protocols and standards, such as ERC-20, ERC-721, ERC-1155, and ERC-4626.
* Utilized IPFS (InterPlanetary File System) for decentralized data storage and integration within decentralized ecosystems.
* Solid background in smart contract testing and gas optimization using Hardhat and Foundry.
* Proficient in developing and deploying EVM smart contracts using tools such as Truffle, Hardhat, and Remix.
* Designed and developed project architecture using tools such as Draw.io and UML diagrams.
* Experienced in Agile development methodologies, architecture design, and software implementation, ensuring efficient and collaborative development for blockchain solutions with tools like Jira and GitHub.

**EDUCATION**

**Bachelor of Engineering (Information Systems Technology and Design)** 2014 - 2018

Singapore University of Technology and Design (SUTD) • Singapore, Singapore

**PROFESSIONAL EXPERIENCE**

**FactoryGame (Hybrid, Contract) (Singapore, Singapore)**

Project Manager(Architecture Design) Dec 2023 - Aug 2024

* Collaborated with stakeholders to define requirements and ensure alignment with project goals.
* Researched advancements using the ERC404 protocol for project optimization.
* Designed data structures including Blueprint, Product, ERC20, ERC721, and ERC1155 tokens for workflow efficiency.
* Developed smart contract architecture, including a factory contract for deploying child contracts and managing the data structure.
* Created Blueprint and Custody smart contracts to handle ERC1155 tokens and securely store component tokens.
* Built Product smart contract for direct user interaction with the platform.
* Developed the Frontend using React, integrating it with smart contracts and tokens.
* Implemented unit tests with Storybook, reducing development time by 15%.
* Streamlined state management with Jotai, improving development speed by 10%.
* Engineered Web3 infrastructure with ethers.js, web3.js, and wagmi, integrating on-chain programs with the frontend.
* Deployed WalletConnect via RainbowKit, including WalletConnect v2, for secure wallet integration.
* Created detailed smart contract documentation and managed tracking using Jira.
* Conducted rigorous smart contract testing on the Sepolia testnet using Hardhat.
* Collaborated with a team of 3 developers to build the entire project, ensuring a seamless and secure user experience.
* Tested frontend functionality and UI for accuracy and security.
* Managed tasks with Jira and provided support to the operations team for production deployment.
* Utilized Slack for reporting progress and resolving daily challenges.

**Environment:** Solidity, Smart Contract, ERC20, ERC721, ERC1155, ERC404, HTML5, CSS, TypeScript, React, Node.js, VS Code, TailwindCSS, Unit Test, GraphQL, Git, MongoDB, Scrum, Agile, Jira, Jotai, Storybook

**Mimic Team (Remote, Full-Time)**   **(England, London)**

Architecture Designer, Smart Contract Developer Nov 2022 – Jul 2023

**Responsibilities**

● Led the design and development of a DeFi platform on Ethereum to enable lending, borrowing, and earning interest on crypto assets.

● Developed the frontend using Next.js, integrating it with smart contracts and tokens.

● Collaborated with the backend team to integrate smart contracts with the frontend, ensuring seamless interaction.

● Integrated Web3 infrastructure using Ethers.js to enable user connection via MetaMask, WalletConnect, and Coinbase Wallet.

● Improved user accessibility and security by enabling secure interaction with DeFi smart contracts.

● Designed staking and liquidity pool functionalities, allowing users to deposit LP tokens and earn rewards based on predefined APYs.

● Deployed ERC20 and ERC721 tokens for rewards and governance, facilitating community-driven decision-making.

● Implemented decentralized oracles (Chainlink) to provide accurate price feeds for lending and borrowing markets.

● Built a governance system using ERC20 tokens, enabling community voting on key proposals via a snapshot voting mechanism.

● Developed unit and integration tests using Jest and Mocha, reducing post-deployment bug fixes by 20%.

● Managed state using Jotai to improve scalability and optimize real-time updates for user balances and transactions.

● Used Hardhat for smart contract testing and deployed on Ethereum testnets, ensuring robustness.

● Deployed the frontend on IPFS and integrated with Filecoin for decentralized data storage and security.

**Environment:** Solidity, Hardhat, Typescript, Polygon, Ethers.js, Cronjob, WalletConnect, MetaMask, Coinbase Wallet, Github, Jotai, Redux, Ropsten, Kovan, IPFS, Filecoin, Chainlink

**Voidz (Remote, Part-Time)** **(England, West Yorkshire)**

Full Stack Developer Feb 2022 - Oct 2022

● Led the design and development of ERC721 and ERC1155 smart contracts to tokenize gaming assets from traditional web2 platforms and blockchain-based games.

● Built mechanisms to verify asset ownership and lock in-game items before tokenization, ensuring secure and immutable representation as vNFTs on the blockchain.

● Created a secure and user-friendly smart contract system to facilitate the seamless trading of tokenized assets (vNFTs) on the blockchain.

● Implemented burning mechanisms for vNFTs when users wanted to redeem their original in-game assets, ensuring the exclusivity and scarcity of each item in circulation.

● Developed the Next.js-based user interface for VoidZ, ensuring users could easily tokenize, trade, and redeem gaming assets.

● Integrated Web3.js and Ethers.js for seamless communication between the frontend and the Ethereum blockchain, allowing users to connect wallets (MetaMask, WalletConnect) and manage their assets.

● Contributed to the integration of LayerZero technology to enable cross-chain tokenization of gaming assets, allowing users to move assets between different blockchain ecosystems.

● Created synthetic vNFTs to represent tokenized assets on various blockchain platforms, ensuring fluid movement between gaming ecosystems and the blockchain, without losing asset value.

● Developed and deployed smart contracts for GPU rental services, allowing developers to rent GPU power via VoidZ’s marketplace.

● Used Hardhat to rigorously test smart contracts, ensuring security, gas efficiency, and correct functionality under various edge cases.

● Performed comprehensive unit tests and integration tests, reducing post-launch bugs and improving contract reliability.

● Managed the global state of the platform using Jotai for fine-grained control, ensuring scalability and responsiveness, especially in token transactions and vNFT marketplace operations.

● Optimized real-time updates for asset balances, transaction statuses, and user notifications, ensuring users had immediate feedback on their interactions with the platform.

**Environment:** Solidity, Smart Contract, ERC721, ERC1155, Hardhat, Merkle Trees, LayerZero, Next.js, Web3.js, Ethers.js, Chainlink Oracles, Filecoin, Ropsten/Kovan testnets, GitHub

**Upwork.com (Remote, Contract)**

Freelancer Dec 2020- Jan 2022

* Led the development of a hotel room booking system with a responsive UI using React, enabling seamless booking and management for both customers and administrators. Integrated a backend API using Node.js and Express.js for smooth data exchange, and developed an admin dashboard with Material-UI to manage reservations and room inventory. Reduced booking processing time by 30% and enhanced user engagement by 20% through optimized API calls and a responsive user experience. Achieved over 85% code coverage, maintaining high code quality and delivering the project ahead of schedule and under budget, resulting in increased client satisfaction.
* Participated in development a project to revamp the School website using the MERN stack, Tailwind CSS, Chakra UI, and Chart.js, focusing on enhancing user flow and experience while retaining the original design. Coordinated with a team of four developers, optimized performance through lazy loading and server-side rendering, and improved accessibility and responsiveness across devices. Our efforts resulted in a 25% reduction in user drop-off rates and a 30% increase in engagement.
* Led the development of a comprehensive job portal site designed to connect job seekers and employers through a simple, efficient, and easy-to-use interface for one of my previous Upwork clients. Used modern web technologies like Next.js, Tailwind CSS, Redux Toolkit, Joi, MongoDB, and SWR hooks for a responsive UI, efficient state management, secure user authentication, dynamic data fetching, and building robust backend APIs. This resulted in a 40% increase in user engagement, a 50% reduction in page load times, and a 25% increase in new user sign-ups within the first three months of launch.
* Designed, developed, and deployed a range of smart contracts for various DeFi protocols across EVM-compatible blockchains, such as Ethereum, Binance Smart Chain (BSC), and Polygon. Collaborated with frontend developers to integrate smart contracts with web interfaces using Web3.js and Ethers.js, providing users with a seamless experience for interacting with DeFi functionalities. Optimized liquidity pool contracts, resulting in a 20% reduction in gas costs and improving user participation in staking and yield farming activities.
* Led the development and deployment of ERC-721 and ERC-1155 smart contracts for NFTs, ensuring secure, efficient, and scalable contract architecture. Worked on contract optimizations to reduce gas costs and increase transaction throughput. Reduced average gas fees for minting by 30% through optimization strategies. Integrated cross-chain NFT trading between Ethereum and Polygon networks, expanding the user base and increasing marketplace liquidity.

**Environment:** React, Next.js, Solidity, Smart Contract, Web3, ERC721, ERC1155, NFT Marketplace, Staking, VS Code, Unit Test, Node.js, Express.js, Tailwind CSS, Material UI, Chaka UI, Chart.js, MongoDB

**Professional Soft-Tech (Onsite, Contract)** **(Singapore, Singapore)**

Full Stack Developer Oct 2018- Dec 2020

* Successfully implemented multiple websites and landing pages from concept through deployment, utilizing the MERN stack to ensure dynamic, scalable, and performant applications.
* Enhanced user engagement by integrating dynamic UI elements using React and responsive designs, increasing user retention and interaction on web applications by 20%.
* Spearheaded the standardization of all outputs by adopting a responsive, mobile-first approach, ensuring seamless accessibility across devices and platforms. Designed and built visually stunning web pages using React and Next.js that offered optimized performance and cross-browser compatibility.
* Engineered RESTful APIs using Express.js and optimized the API consumption process within React applications, elevating the functionality and performance of web applications. Successfully integrated third-party services like Shopify, WordPress REST API, and WooCommerce API to expand the feature set of e-commerce solutions.
* Implemented sub-applications using Next.js to manage both back-end and front-end development. Integrated advanced technologies such as TypeScript, RxJS, Tailwind CSS and Bootstrap to deliver robust and sophisticated solutions. Leveraged server-side rendering and static site generation (SSG) for better SEO performance and faster load times.
* Achieved a significant reduction in page load time through Next.js optimizations, including code splitting, lazy loading, and server-side rendering.
* Led the development and deployment of customized Shopify stores, including the creation of dynamic storefronts, product management, and checkout processes. Utilized Liquid templates, integrated Shopify apps, and customized store themes to enhance user engagement and streamline the shopping experience.
* Developed and integrated custom Shopify apps tailored to client-specific needs, enhancing store functionalities and enabling advanced features like inventory synchronization, order management, and personalized product recommendations using Node.js and MongoDB.
* Engineered and customized WordPress themes and plugins to meet specific client requirements, integrating third-party APIs and ensuring seamless content management for end-users. Delivered high-quality, reusable markup with HTML5 and CSS3 to elevate the overall website aesthetics.
* Successfully launched multiple Shopify and WordPress-based e-commerce stores, handling up to 50,00 daily transactions and ensuring excellent site performance and customer satisfaction.
* Adapted to the Agile Development Model, actively participating in sprint planning, daily standups, and retrospectives to maintain alignment with the project goals and timelines. Collaborated closely with designers, product managers, and fellow developers to deliver new features and resolve technical challenges promptly.

**Environment:** React, Next.js, Node.js, Express.js, MongoDB, Bootstrap, TailwindCSS, Shopify, WordPress, JQuery, TypeScript

**HONOR REWARD**

**Champion of Dapp and Dash Campaign** Nov 2023 - Dec 2023

Forward - Rootstock on AlphaGuility