Justin Hanneman

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PROFILE

Passionate about cryptography, math, and problem-solving. Born to code.

PROFESSIONAL EXPERIENCE

River Financial   2022 – 2024

Senior Software Engineer

Developed, tested, and documented the brokerage product and related services, as well as leading the integration with River's in-house Lightning Network tooling. Worked across the full stack, including: writing and editing product and technical specs; creating and maintaining user-facing front-end interfaces based off of Figma designs; architecting and coding back-end systems such as the referral program and Target Price Order implementation; updating internal API for mobile application usage; designing and implementing database schemas, migrations, and performance optimizations; DevOps-related work including infrastructure and GCP configuration; security review and system analysis; generating cryptographic signatures for transfers and attestations related to funds in cold-storage; general Phoenix application improvements and refactoring tasks; setting up and extending integrations with third-party vendors; testing, performing code review, and leading knowledge shares regarding the subsystems used and maintained by River; interviewing prospective employees and mentoring new hires.

Tech/stacks used: Bitcoin, Elixir, Go, PostgreSQL, GraphQL, Docker, Kubernetes, Python, d3.js, Phoenix, Ecto, Fireblocks, Talos, Google Cloud Platform

dClimate   2021 – 2022

Engineering Lead, Full-Stack Developer

Developed both the front-end and back-end for a decentralized climate data marketplace based on React, Typescript, Solidity contracts, and IPFS-based storage, indexed via The Graph. Helped to establish and maintain the continuous integration and deployment processes with GitHub Actions and Vercel. Wrote documentation and deployment scripts, helped onboard and educate new employees, and directed the engineering team's efforts with respect to architecture, priorities, and deliverable expectations. Helped to debug application features, review and improve pull requests from other contributors, write tests and improve test coverage, coordinate with relevant external organizations when appropriate, and audit contract functionality, design, and implementation.

Tech/stacks used: React, Typescript, NextJS, IPFS, IPNS, IPLD, Docker, PostgreSQL, GraphQL, Solidity, Ethers.js, Hardhat, web3, Chainlink, The Graph, Matchstick, Storybook, Chromatic, Python, Bash

Factom   2015 – 2020

Core Developer, *Full-Stack Developer*

Worked extensively on the core blockchain protocol implementation (factomd), including development of the consensus and fault algorithms, networking code, RPC and other APIs, command-line utilities, and test suites. Built, tested, deployed and maintained many applications and products beyond the core protocol, including: official websites and web services; wallet and blockchain explorer software, libraries, and toolsets; mining pool software; external data/service integrations. Designed and architected both open source and proprietary software, including considerable work on Verifiable Credentials and self-sovereign identity data models. Collaborated continually with the QA and testing specialists to improve product and network integrity.

Tech/stacks used: Go, Python, Javascript, Elixir, Java, HTML, CSS, d3.js, WordPress, Kubernetes, Docker, Helm, React, Bash, json-ld, BoltDB, LevelDB, MapDB, Couchbase, Elastic stack, Google Cloud, AWS, Azure

Delphi Systems   2017 – 2018

Founder, *Chief Architect*

Authored multiple whitepapers and technical specifications, created and maintained project websites and mailing lists, organized and managed a small team of contributors as well as public communications, and designed, programmed, debugged, and deployed smart contracts on Ethereum which managed and distributed millions of dollars worth of value. Built and deployed distribution contracts, prediction market contracts, compound token architecture and stake-signaling solutions, web3-based application front-ends, and general purpose multisignature oracle frameworks.

Tech/stacks used: Javascript, Solidity, Python, HTML, CSS, LaTeX

HostGator   2012 – 2015

Triage Administrator, *Level II Administrator*

Acted as an autonomous sysadmin, resolving a diverse range of interdisciplinary issues: memory and disk-space exhaustion; virtual environment failures; DDoS-related disturbances; port and connection troubles; firewall issues; service outages and misconfigurations; security investigations; backups and restorals; redundancy; malware; compromised accounts; hacked sites; migrations; custom scripting; quality assurance; internal training and technical assistance. Resolved second-tier-escalated technical issues including style and formatting anomalies, CMS configuration issues, database connection or authentication problems, custom scripting needs. Performed regular Billing Admin duties and optimized performance, speed, CPU usage, and system compatibility of customers' websites.

Tech/stacks used: Apache, PHP, MySQL, Bash, Javascript, HTML, WordPress, Joomla, Drupal, ASP.net, SMTP, IMAP, POP3, DNS,

C2B Suite   2013

Lead Product Developer

Developed full-fledged analytics suite for aggregating, parsing, visualizing, searching/sorting/filtering, exporting, and formatting large and disparate datasets.

Tied into third-party APIs for data and rendered charts and visualizations through d3.js in real-time; full mobile support; secure login authentication system; unit test coverage; wrote developer documentation and usage guides; comprehensive application performance benchmarks; migration and deployment scripts; production environment setup; Agile&Scrum methodology.

Tech/stacks used: HTML, CSS, Javascript, d3.js

PERSONAL PROJECTS

Miscellaneous   2014 – 2018

- Deployed and maintained multiple reddit bots through PRAW (Python)

- Built extended toolsuites for automated web archival; local (MySQL) database population and management; including Kivy-based front-end, Selenium automation and testing, BeautifulSoup content management, Tesseract OCR and multiple image-recognition packages.

- Designed, created, launched, and hosted multiple websites for various personal projects and general informational services.

- Built a working Bitcoin wallet front-end (primarily featuring extended coin control) in node.js

- Built and managed an expansive market analytics and multi-threaded backtesting suite (using Python, matplotlib, numpy, pandas, Tkinter) to generate and evaluate automated trading algorithms.

- Provided independent smart-contract consulting and auditing services (Solidity, web3, Truffle)

EDUCATION

The University of Texas at Austin

B.B.A. Management of Information Systems   2008 – 2013