

EDUCATION

University of Texas at Austin

Austin, TX

Bachelor of Science in Computer Science: Turing Scholars Honors; GPA: 3.80

Aug 2012 – May 2015

- **Thesis:** “A Concurrent Dictionary and Wait-Free Queue from Compare and Swap”

EMPLOYMENT

VM Capital

Remote

Founder/CTO

Feb 2020 - Present

- **Lead Blockchain Engineer:**
 - * **Smart Contracts:** Implemented and optimized dozens of smart contracts in Solidity and EVM assembly
 - * **Auditing:** Discovered and disclosed 2 Critical vulnerabilities in 3rd party deployments
 - * **Automation:** Engineered tooling to quickly debug reverts and detect vulnerabilities
- **Lead Backend Engineer:**
 - * **go-ethereum:** Implemented state subscription system for backrunning and block updates
 - * **ArbitrageEngine:** Implemented graph algorithm generalizing arbitrage for various DeFi protocols
 - * **Automation:** Developed tools generating boilerplate from ABI and creating test cases from crash dumps
- **Engineering Manager:** Built and managed a team of engineers: triaging tasks and cultivating junior engineers
- **MEV Innovator:** Pioneered stablecoin arbitrage, backrunning, gas griefing, generalized batching, 2byte ABI

TrustToken

San Francisco, CA

Blockchain Engineer

Oct 2018 - Feb 2020

- **Contract Profiling:** Reduced TUSD transfer gas 70%, from 102591 to 30591, then the cheapest ETH stablecoin
- **Autosweep:** Patented feature improving wallet usability for merchants, exchanges, and OTC desks
- **Redemption addresses:** UX allowing TrueUSD redemption by transferring to a memorable redemption address

Consensys

San Francisco, CA

Blockchain Engineer

May - Aug 2018

- **MetaMask:** Prototyped mobile ethereum wallet and dapp browser
- **uPort:** Implemented EIP155 for iOS uPort

Snap

Venice, CA

Mobile Software Engineer

Jun 2015 - Nov 2017

- **Memories:** Created and shipped Memories for both iOS and Android
- **Messaging:** Owned the Android media pipeline, reduced video p99 latency 80% and video error rate 47%
- **Tools:** Created internal workflow scripts and pull request nagbot “Der Krampus”

RECENT PERSONAL PROJECTS

EVM

Jan 2020 - Present

github.com/wjmelements/evm

- Ethereum Virtual Machine assembler, disassembler, and debugger

Uniswap V4

Jul - Oct 2024

github.com/Uniswap/v4-core

- Merged three optimizations reducing swap gas

Paretto

Oct 2014 - Jan 2017

bitbucket.org/wjmelements/colors

Formerly on the iOS App Store

- iOS puzzle and survival game based on the four-color theorem

PROFICIENCIES

Languages (Expert)

C, C++, Java, Solidity, Python

Languages (Experienced)

Javascript, Go, Objective-C, Perl, Haskell, R, Prolog

Selected Tools

git, make, cURL, vim, bash

FINRA Exams

SIE, Series 7, Series 63

Misc

iOS, Android, Linux, Ethereum, SQL