

Martin Allen

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EXPERIENCE

ℓ-adic Technologies, Core Dev, Remote *July 2023 - Present*

- Implemented a ZK compiler for the Haskell programming language targeting an R1CS constraint system
- Implemented a novel arkworks integration to enable Groth16 proofs with verification on Ethereum

August Health, Senior Software Engineer, Remote — *Jan 2022 - March 2023*

- Introduced modern functional programming patterns and libraries into a large Scala codebase, helped promote and explain core concepts to our team
- Instituted application metrics and monitoring to identify and resolve critical performance bugs
- Developed various API features and enhancements based on customer requirements

Tweg, Software Engineer (Consulting), Remote — *July 2021 - Jan 2022*

- Made core contributions to the Djed stablecoin application deployed to Cardano, including exhaustive state machine tests and property-based tests before the launch
- Authored the Nix derivations for building, packaging, and deploying the Djed smart contracts

FOAM, Senior Engineer, Founding Member, NYC — *Sept 2017 - Jan 2021*

- Architected and implemented several backend services to support Ethereum applications, including REST APIs, notification systems, and novel indexers/caching for smart contract data.
- Implemented the numerical analysis and statistical filtering backing FOAM's custom geolocation hardware stack
- Led a team of engineers in both protocol R&D and end-to-end application development
- Developed Ethereum scaling solutions, including Cosmos integrations for the FOAM stack

BlockApps, Senior Platform Engineer, NYC — *Jan 2017 - Sept 2017*

- Implemented and improved core features of BlockApps' Haskell Ethereum client, including the EVM
- Extended the client's proprietary cache layers and relational database plug-ins supporting the developer platform
- Designed and implemented novel Ethereum solutions for private enterprises, specifically in the areas of supply chain management and identity and access management systems.
- Designed and taught professional development courses on Solidity smart contract development and Ethereum internals.

VFILES, Full Stack Engineer, NYC — *Jan 2016 - Jan 2017*

- Developed and enhanced the REST API and notification systems using Postgres and Elasticsearch databases.
- Delivered user facing features on a large frontend application using HTML, CSS, and AngularJS

EDUCATION

PhD candidate, Mathematics, Central European University, Budapest, Hungary — *2014 - 2016*

- Thesis: *Zeta functions of Normal Surface Singularities*

MSc, Mathematics, University of Paris-Saclay, Orsay, France — *2012 - 2014*

- Thesis: *The Riemann Hypothesis for Hypersurfaces over Finite Fields*

BSc, Mathematics, University of Washington, Seattle, Washington — *2006 - 2010*

OPEN SOURCE PROJECTS:

You can find a list of projects on my personal site: <https://martyall.github.io/open-source-work.html>

LANGUAGES:

Haskell, PureScript, Rust, Scala, Python, Nix, Dhall, Solidity, Plutus

TECHNOLOGIES:

Linux, Nix, Postgres, Elasticsearch, Redis, ZeroMQ, Ethereum, Cardano, Cosmos/Tendermint, Docker, Kubernetes