

# Martin Allen

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## EXPERIENCE

### **Tweag, Software Engineer** — Aug 2021 - Present

- Worked with clients to implement exhaustive testing of blockchain applications written for the Cardano network.
- Contributed to the Haskell rules for the Bazel build system.

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

- Architected and managed development of FOAM backend services, including REST APIs, notification systems, and novel stream processing pipelines for indexing and caching Ethereum data.
- Architected and implemented numerical analysis pipelines for FOAM's localization protocol, transforming raw measurements from FOAM's custom hardware stack into localization data.
- Applied statistical learning methods in Python/Jupyter notebooks to diagnose malfunctioning hardware and software
- Built several internal-facing frontend web applications and dashboards in PureScript, and contributed to FOAM's large web applications.
- Researched Ethereum scaling solutions, including Cosmos and Plasma integrations for the FOAM stack.

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

- Designed and implemented novel Ethereum blockchain solutions for private enterprises, specifically in the areas of supply chain management and identity and access management systems.
- Maintained and developed BlockApps's Strato platform, a proprietary Ethereum platform with RDBMS connectors and REST APIs to facilitate Ethereum blockchain development.
- Consulted with J.P. Morgan to implement novel privacy features for their Quorum blockchain platform, and to integrate the BlockApps RDBMS connectors to index Quorum contract state.
- Taught and developed curriculum for developer training courses on Ethereum applications and internals.

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

- Wrote endpoints for and improved the REST API and notification systems backed by Elasticsearch, Postgres, and Neo4j databases.
- Delivered many user facing features on a large AngularJS frontend application, including implementing the HTML and CSS developed by the site designers.

## 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

[kepler](#): Haskell language ABCI server and SDK for developing Tendermint/Cosmos blockchain applications.

[chanterelle](#): A build/deployment system for Ethereum smart contracts written in PureScript.

[purescript-web3](#): The PureScript client library for the web3 API.

[purescript-web3-generator](#): Generate FFI bindings for Ethereum smart contracts in PureScript.

[hs-web3](#): The Haskell client library + kitchen sink for the Ethereum and Polkadot web3 APIs.

## LANGUAGES

Haskell, PureScript, Rust, Python, Clash, Dhall

## TECHNOLOGIES

Postgres, Elasticsearch, Redis, Docker, Kubernetes, Kafka, ZeroMQ, Ethereum, Tendermint