Martin Allen

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EXPERIENCE

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 stream processing pipelines for FOAM's localization protocol, transforming raw measurements from FOAM's custom hardware stack into localization data.
- Implemented extensive tests and simulators for FOAM's full stack applications and localization protocol.
- 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.
- Applied statistical learning methods in Python/Jupyter notebooks to help diagnose malfunctioning hardware and software.

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*

BA, English Literature, 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.
purescript-deck-gl: Extensive PureScript bindings for Uber's deck.gl UI geospatial visualization library.

LANGUAGES TECHNOLOGIES

Haskell, PureScript, Rust, Python, Clash, Dhall

TECHNOLOGIES

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