

Aaron B. Todd

Contact

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Address

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Work Experience

Symbiont.io, New York, NY

June 2016 - Present

- Built foundational smart contract programming SDK and testing tooling distributed to clients and used by 40+ engineers internally.
- Designed core blockchain privacy model and cryptographic primitives, delivering implementation in Haskell.
- Lead various teams across org, including lead-of-leads for core platform.
- Technical and organizational contributions across nearly all subjects, from ops to application dev.

Bridgewater Associates, Westport, CT

Jan 2014 - April 2016

Senior Software Developer

- Developed system for validating analytics platform changes against existing confidential logic.
- Built optimization algorithms for trade generation pipeline in account management department, contributing to launch of Optimal Portfolio fund.
- Designed and implemented domain specific language for position aggregations used in three Scala projects, providing faster delivery and stronger correctness guarantees.

Mozilla, Mountain View, CA

Summer 2013

Research Engineering Intern

- Implementing directly in Rust, added work stealing to the green thread runtime scheduler.

Education

B.A. in Computer Science, Grinnell College

May 2011

M.S. in Computer Science, Indiana University Bloomington

May 2013

- *Adviser Ryan Newton* Researched deterministic parallel programming working in Haskell, including a deterministic parallel merge sort published at PLDI 2014.
- *Adviser Beth Plale* Implemented REST API abstracting over compute resources in Scala, Akka and Spray for the HathiTrust Research Center.

Selected Patents & Publications

U.S. Patent 10320843B1: "Methods, systems, and devices for encrypted electronic storage and confidential network transfer of private data through a trustless distributed ledger technology system", June 2019

U.S. Patent 10146792B1: "Systems and methods for implementing a programming model for smart contracts within a decentralized computer network", December 2018

Kuper, L., Todd, A., Tobin-Hochstadt S., Newton, R.R. **Taming the Parallel Effect Zoo: Extensible Deterministic Parallelism with LVish** *PLDI '14*

Computer Skills

Scala, Python, Go, Haskell, Scheme, SQL, Rust, Google Cloud, Kubernetes, Docker, Terraform, CircleCI