

Aaron B. Todd

Contact

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Address

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Work Experience

Symbiont.io, New York, NY

June 2016 - Present

Director of Platform Engineering

- Technical leader and manager of 30 engineers responsible for delivery of Symbiont Assembly blockchain platform.
- Built foundational smart contract programming SDK distributed to clients and used by 40+ engineers internally.
- Designed core blockchain privacy model and cryptographic primitives, delivering implementation in Haskell.
- Set smart contract architecture for private equity, index data, fixed income, and mortgage servicing product lines.

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 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

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.

B.A. in Computer Science, Grinnell College

May 2011

Selected Patents & Publications

US10320843B1: "Methods, systems, and devices for encrypted electronic storage and confidential network transfer of private data through a trustless distributed ledger technology system", June 2019

US10146792B1: "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, Git