

# Aaron Lamoreaux

 lamoreauxaj

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 lamoreauxaj.com

## Education

**B.S. Computer Science & Math** *UT Austin* | Aug 2019–Dec 2022

**4.0 GPA.** Turing Scholar. Participant in programming and cybersecurity contests.

### Coursework:

- Operating Systems (Honors)
- Algorithms (H)
- Sublinear Algorithms (Graduate)
- Cryptography (G)
- Quantum Complexity Theory (G)
- Automated Logical Reasoning (G)
- Theory of Probability (G)
- Real Analysis II
- Abstract Algebra

## Skills

**Proficient:** Java, C, C++, Python, JavaScript, OCaml, LaTeX, React, Git

**Familiar:** Haskell, Kotlin, Assembly, Bash, SQL

## Awards

- ICPC World Finalist
- Top 500 Putnam
- USACO Finalist
- USAJMO Qualifier
- UIL CS State Champions
- Codeforces Division 1 (2271)
- HackDFW Finalist
- HackTX Finalist
- Mathworks Math Modeling HM
- UT Distinguished College Scholar

## Teaching Experience

- Alphastar USACO Silver instructor
- Algorithms TA
- Private USACO tutoring
- Competitive Programming TA

## Work Experience

**Software Engineering Intern** *Jane Street* | Jun 2021–Aug 2021

- Added new indexers for webpages and Google Drive to internal search engine. Implemented Pagerank to improve search results.
- Implemented and deployed an authenticated API proxy in order to communicate with many cryptocurrency exchanges.
- Created library to interact with cryptocurrency SQL tables.
- Designed algorithm for balancing cryptocurrency inventory across exchanges.

**Research Assistant** *UT Austin* | Feb 2020–Nov 2020

- Implemented program synthesis tool, WebQA, for extracting information from heterogenous webpages.
- Created DSL including neural and programmatic constructs.
- Benchmarked against 25 different tasks across domains.
- Published in PLDI 2021.

**Software Engineering Intern** *Department of Defense* | Jun 2019–Aug 2019

- Held Top Secret//SI//TK security clearance.
- Used Pig and Python to write analytics on large data sets.
- Created Jupyter notebooks used by other teams for discovery with cyber-security data sources.

**Software Engineering Intern** *State Farm* | Jun 2018–Jul 2018

- Built automatic testing tools for insurance policy software using Node.js mock data generation frameworks.
- Designed React.js web app used to visualize and log tests for internal projects.

**Software Engineering Intern** *State Farm* | Jun 2017–Jul 2017

- Automated update system for internal Apple products.
- Automated system for data transfers in migration effort.
- Created Ember.js pages to manipulate databases for integration testing workflows.

## Projects

**Quantum Streaming Algorithms** *CS395T* | Jan 2021–May 2021

- Covers literature on quantum streaming algorithms for Quantum Complexity Theory course.
- Proved a better lower bound and gave a quantum algorithm which exceeds classical for 3rd moments.

**Applying Peelable Hypergraph Constructions to Sparse Recovery** *CS395T* | Aug 2020–Dec 2020

- Independent research project for Sublinear Algorithms course.
- Investigated how to get improved constants for sparse recovery algorithms from peelability results.

**Experimental Geometer** *HackTX* | Feb 2019–May 2020

- Built a VR application which would render dynamic geometric diagrams that could be manipulated dynamically.
- Wrote interpreter for geometric domain specific language which supported hot reloading.
- Continued to develop C++ compiler for scripting language.