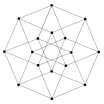

Samuel Thomas

Resumé

Education

2021–Present **Ph.D**, *UT Austin*, 3rd year.
Working with James Bornholt. Studying compilers for hardware design from a programming languages perspective

2016–2020 **B.S**, *Cornell University*, Ithaca.
Major in Computer Science, Concetration in Linguistics

2012–2016 **High School Diploma**, *John Marshall HS*, Los Angeles.
Graduated with High Honors

Publications

ASPLOS 2024 *"Automatic Generation of Vectorizing Compilers for Customizable Digital Signal Processors"*.
Samuel Thomas, James Bornholt. **Best Paper Award!**

ASPLOS 2021 *"A Compiler Infrastructure for Accelerator Generators"*.
Samuel Thomas, Rachit Nigam, Zhijing Li, Adrian Sampson.

PLDI 2020 *"Predictable Accelerator Design with Time-Sensitive Affine Types"*.
Rachit Nigam, Sachille Atapattu, **Samuel Thomas**, Theodore Bauer, Apurva Koti, Zhijing Li, Yuwei Ye, Adrian Sampson, Zhiru Zhang.

Experience

2019 Summer – Present **Capra**, *Cornell*.

- Lead the FuTIL project, a novel intermediate language and infrastructure that separates the structure of a program from the control of the program to enable more simple construction of software-hardware compilers. `https://github.com/cucapra/futil`.
  - First author on paper submitted to ASPLOS 2021.
  - Developed working infrastructure that generate synthesizable RTL.
  - Organize a team of six people.
  - Work closely with undergraduate researchers to help introduce them to Computer Science research.
- Worked on Dahlia, a programming language that uses affine types to model hardware resources.
  - Helped to write the paper we submitted to PLDI 2020.
  - Ran extensive experiments comparing Dahlia to other HLS tools.
  - Helped write the Dahlia compiler.

2018 – 2020 **Teaching Assistant**, *Cornell*.
Teaching assistant for CS 3110, a class on functional programming in OCaml, for three semesters. Taught a discussion section for two semesters. Helped rewrite a major assignment for the class.

2018 Summer **Information Science Institute**, *USC*.

- Worked with Greg Ver Steeg on meta machine learning problems. `https://github.com/sgpthomas/sklearn-pmlb-benchmarks`.
  - Design a system to scalably run machine learning experiments across hundreds of machines.
  - Reproduce the results from the Penn ML Benchmark suite.
  - Extend the metrics gathered from the Penn ML Benchmark suite to enable analysis of generalization error in machine learning algorithms.
- Used the Penn ML Benchmark to gather large amounts of data on the performance of different machine learning algorithms.

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2017 Summer **Network Systems Laboratory**, *USC*.
Worked with Wyatt Loyd on DSEF, the Distributed Systems Experimental Framework, a framework for improving the reproducability of Distributed Systems experiments.
`https://github.com/DSEF`.

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