

# Ashton Wiersdorf

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## EDUCATION

### University of Utah

PhD in Computer Science

- Advisor: Ben Greenman
- Focus: Type and macro systems

Started Fall 2022

Salt Lake City, Utah

### Brigham Young University

B.S. in Computer Science, Math minor

- Cumulative GPA: 3.76/4.0

2017–2022

Provo, Utah

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## EMPLOYMENT

### University of Utah

Research Assistant

Started Fall 2022

Salt Lake City, Utah

### Spiff Inc.

Software Engineer

May 2021–August 2022

Sandy, Utah

- Built, maintained, and extended an interpreter for a language tailored to processing financial calculations

### TazWorks (now MeridianLink)

Software Engineer Intern

January 2020–April 2021

Draper, Utah

- Eliminated daily-manifesting bugs in the company's core Elixir application

### 20 Billion Neurons GmbH

Software Engineer Intern

September–December 2019

Berlin, Germany

- Dockerized AI application; built Travis CI script to automatically build and push images

### Student Life Technology at BYU

Programmer

December 2016–April 2019

Provo, Utah

- Stabilized decades-old legacy systems; introduced version control and automated build pipelines

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## LEADERSHIP AND TEACHING

### Instructor and Mentor

Spiff Inc.

May 2021–August 2022

Sandy, Utah

- Mentored coworkers outside of engineering interested in learning how to program
- Delivered weekly instruction on software development

### English Instructor

Impact Exchanges

June–July 2017

China

- Planned and delivered English lessons to grade-school children for six weeks

### Full-time Volunteer

The Church of Jesus Christ of Latter-day Saints

2014–2016

Germany

- Lead weekly instruction and training to other volunteers
- Organized service projects and training meetings involving volunteers across Germany

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## PUBLICATIONS

### Conference Papers

*FlowFPX: Nimble tools for debugging floating-point exceptions*

JuliaCon 2023

Taylor Allred, Xinyi Li, Ashton Wiersdorf, Ben Greenman, and Ganesh Gopalakrishnan

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## PROJECTS

See a full list of projects on my personal site and related sites such as SourceHut and GitHub.

### Type inference with errors

Project on SourceHut

Type inference for a small lambda calculus with decent error messages

### $\mu$ Kanren

Project on SourceHut

Walkthrough of the  $\mu$ Kanren embedded logic language

### lambda-x86

Project on GitHub

My first compiler, which compiles a small Lisp to x86

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## DETAILED RESEARCH EXPERIENCE

### PLT

2023

University of Utah

- Developed tools for diagnosing floating-point errors with Ben Greenman and Ganesh Gopalakrishnan
- Ongoing work on types and macro systems with Ben Greenman

### Flux Research Group

2022

University of Utah

- Developed a DSL for building xApps in O-RAN enabled 5G base stations with Eric Eide

### Undergraduate Research

2021

Brigham Young University

- Developed novel control-flow analysis techniques with Kimball Germane
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## LANGUAGES

- **English** Native language
  - **German** Fluent, CEFR level: C1–C2
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## SCHOLARSHIPS AND AWARDS

- Departmental Fellowship 2023
- Academic scholarship for half tuition 2017–2019
- Runner-up, Utah Sterling Scholar 2014
- 1st place, Utah State Science Fair 2013