

# Ashton Wiersdorf

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## EDUCATION

### University of Utah

PhD in Computer Science

- Focus: Programming languages and type 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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## EXPERIENCE

### Spiff Inc.

Software Engineer

- Built, maintained, and extended an interpreter for a language tailored to processing financial calculations
- Implemented a type inference system emphasizing comprehensible error messages

May 2021–August 2022

Sandy, Utah

### TazWorks (now MeridianLink)

Software Engineer Intern

- Eliminated daily-manifesting bugs in the company's core product
- Ported legacy Ruby code base to Elixir to improve reliability and response times

January 2020–April 2021

Draper, Utah

### 20 Billion Neurons GmbH

Software Engineer Intern

- Adapted a Golang project to be more robust under unstable network conditions
- Dockerized AI application; built Travis CI script to automatically build and push images

September–December 2019

Berlin, Germany

### Student Life Technology at BYU

Programmer

- Stabilized decades-old legacy systems and introduced automated build strategies
- Introduced version control to office; GitLab now used to manage all projects

December 2016–April 2019

Provo, Utah

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## LEADERSHIP AND TEACHING

### Instructor and Mentor

Spiff Inc.

- Mentored coworkers interested in learning how to program
- Delivered weekly instructions on various topics related to software development

May 2021–August 2022

Sandy, Utah

### English Instructor

Impact Exchanges

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

June–July 2017

China

### Full-time Volunteer

The Church of Jesus Christ of Latter-day Saints

- Learned to speak fluent German and taught myself conversational Chinese
- Gave weekly instruction and training to other volunteers
- Organized service projects and training meetings involving volunteers across Germany

2014–2016

Germany

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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

Type inference for a small lambda calculus with decent error messages

Project on SourceHut

### $\mu$ Kanren

Walkthrough of the  $\mu$ Kanren embedded logic language

Project on SourceHut

### lambda-x86

My first compiler, which compiles a small Lisp to x86

Project on GitHub

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## RESEARCH

### PLT

University of Utah

2023

- Developed tools for diagnosing floating-point errors with Ben Greenman and Ganesh Gopalakrishnan

### Flux Research Group

University of Utah

2022

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

### Undergraduate Research

Brigham Young University

2021

- Developed novel control-flow analysis techniques with Kimball Germane

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## PRESENTATIONS

### Upcoming

- FlowFPX: Discovering and Tracking Exceptional Floating-Point Values JuliaCon 2023

### Informal

- Macros with Elixir 2019

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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