Ashton Wiersdorf

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EDUCATION

University of Utah   Started Fall 2022
PhD in Computer Science   Salt Lake City, Utah

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

Brigham Young University   2017–2022
B.S. in Computer Science, Math minor   Provo, Utah

- Cumulative GPA: 3.76/4.0

EMPLOYMENT

University of Utah   Started Fall 2022
Research Assistant   Salt Lake City, Utah

Spiff Inc.   May 2021–August 2022
Software Engineer   Sandy, Utah

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

TazWorks (now MeridianLink)   January 2020–April 2021
Software Engineer Intern   Draper, Utah

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

20 Billion Neurons GmbH   September–December 2019
Software Engineer Intern   Berlin, Germany

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

Student Life Technology at BYU   December 2016–April 2019
Programmer   Provo, Utah

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

LEADERSHIP AND TEACHING

Instructor and Mentor   May 2021–August 2022
Spiff Inc.   Sandy, Utah

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

English Instructor   June–July 2017
Impact Exchanges   China

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

Full-time Volunteer   2014–2016
The Church of Jesus Christ of Latter-day Saints   Germany

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

PUBLICATIONS

Conference Papers

FlowFPX: Nimble tools for debugging floating-point exceptions   JuliaCon 2023
Taylor Allred, Xinyi Li, Ashton Wiersdorf, Ben Greenman, and Ganesh Gopalakrishnan

PROJECTS

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

Type inference with errors   Project on Codeberg
Type inference for a small lambda calculus with decent error messages

μKanren   Project on Codeberg
Walkthrough of the μKanren embedded logic language

lambda-x86   Project on GitHub
My first compiler, which compiles a small Lisp to x86

DETAILED RESEARCH EXPERIENCE

PLT   2023–Present
University of Utah

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

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

LANGUAGES

- **English** Native language
- **German** Fluent, CEFR level: C1–C2

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