Ashton Wiersdorf

https://lambdaland.org/ ◇ mail@wiersdorf.dev
GitHub: ashton314 ◇ LinkedIn: ashton-wiersdorf

PUBLICATIONS

Conference papers

FlowFPX: Nimble tools for debugging floating-point exceptions　　　JuliaCon 2023

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

INVITED TALKS & LECTURES

Monads　　　2024
University of Utah

Lecture on monads, delivered in a course on functional programming. Lecture notes and slides available on my website.

Type Tailoring　　　2023
CPU Reading Group, University of Utah

Informal presentation on the ideas behind type tailoring.

Introduction to Elixir Macros　　　2019
Utah Elixir Meetup

Presentation on the basics of writing macros in Elixir. Talk recording and materials available on my website.

TEACHING

Miscellaneous

Private math tutor　　　2023

Tutored high schoolers and adults who needed help with arithmetic, geometry, and algebra

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

PROJECTS

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

Research projects

FloatTracker
Project on GitHub
Automatically track floating-point exceptions in Julia code

Personal projects

Ysue
Project on Codeberg
Simple text editor written in Haskell featuring a rope data structure

Type inference with errors
Project on Codeberg
Type inference for a small lambda calculus with precise 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

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