Kyle Headley

PhD Student

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Interest

I am interested in program organization and structure. This can include language forms, but also type systems and emerging structures like those in data flow for incremental computation and in program analyses.

This CV is limited to two pages. See my website for additional work.

Education

MS (Computer Science)	University of Colorado Boulder	2017
BS (Computer Science)	University of Maryland	2015
BA (Philosophy)	University of Maryland	2015

Publications

A DSL embedded in Rust
Kyle Headley.
Implementation and Application of Functional Languages (**IFL 2018**).
Lowell, Massachusetts. September 2018.

The Random Access Zipper: Simple, Purely-Functional Sequences
Kyle Headley, Matthew A. Hammer.
Trends in Functional Programming (**TFP 2016**).
College Park, Maryland. June 2016.

Incremental Computation with Names
Matthew A. Hammer, Joshua Dunfield, Kyle Headley, Nicholas Labich, Jeffrey S. Foster, and Michael Hicks.
Object-Oriented Programming, Systems, Languages, and Applications (**OOPSLA 2015**).
Pittsburgh, USA. October 2015.

Teaching

Programming Languages (TA and Lab Instructor)
University of Alabama at Birmingham, CS401/501 Spring 2019

Priciples of Programming Languages (TA and Lab Instructor)
University of Colorado Boulder, CSCI3155 Fall 2018

Student Internships

Mozilla, Servo web browser (June 2016–September 2016)
Graduate Research Intern

Awards

2nd Place Student Research Competition Graduate (**PLDI 2017**)

2nd Place Student Research Competition Undergrad (**ICFP 2015**)

Service

Student Volunteer Co-Chair (**ICFP**), Spring 2020

Senator, UAB Graduate Student Government (**GSG**), Spring 2019

Student Volunteer Co-Captain (**PLDI**), Spring 2018

Student Volunteering: PLDI'17, POPL'18, ICFP'18, ICFP'19

Talks

Visualizing Abstract Abstract Machines
Scheme Workshop (**ICFP 2019**)
Berlin, Germany. August 2019

Embedding a DSL in Rust
Implementation and Application of Functional Languages (**IFL 2018**)
Lowell, Massachusetts. September 2018

Speed and Simplicity for Incremental Sequence Computation
Incremental Computation Workshop (**PLDI 2017**)
Barcelona, Spain. June 2017

The Random Access Zipper: Simple, Purely-Functional Sequences
Trends in Functional Programming (**TFP 2016**)
College Park, Maryland. June 2016.

Correct-by-Construction Interactive Software
Off the Beaten Track (**OBT 2016**)
St. Petersburg, Florida. January 2016

Sparse Adapton
Student Research Competition, 3rd Round, Undergraduate (**ICFP 2015**)
Vancouver, Canada. September 2015

Posters

Using Rust's Type-level Language
International Conference on Functional Programming (**ICFP 2019**)
Berlin, Germany. August 2019

IODyn: A High-level Language for Incremental Computation
Symposium on Principles of Programming Languages (**POPL 2018**)
Los Angeles, California. January 2015

Sparse Adapton
International Conference on Functional Programming (**ICFP 2015**)
Vancouver, Canada. September 2015