David Darais

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Appointments	(Upcoming) Tenure-track Assistant Professor in Computer Science. University of Vermont. 2018.
Research Interests	Programming Languages, Software Correctness and Security, Language-based Security, Mechanically Verified Software, Program Analysis, Abstract Interpretation
Education	PhD, Computer Science, University of Maryland, 2017 PhD Thesis: "Mechanizing Abstract Interpretation" Advisor: David Van Horn MS, Computer Science, Harvard University, 2015 PhD Qualifying Exam: "Abstract Control in Program Analysis" Advisor: Greg Morrisett BS, Computer Science, University of Utah, 2011 BS Thesis: "Extracting the Essence of Type Classes" Advisors: Matthew Flatt & Matthew Might

Publications

David Darais, Nicholas Labich, Phúc C. Nguyễn, David Van Horn. Abstracting Definitional Interpreters. *International Conference on Functional Programming (ICFP)*. ACM Press, 2017.

David Darais and David Van Horn. Constructive Galois Connections: Taming the Galois Connection Framework for Mechanized Metatheory. *International Conference on Functional Programming (ICFP)*. ACM Press, 2016.
» *Invited to Appear in Journal of Functional Programming (JFP) Special Issue.*

David Darais, Matthew Might, and David Van Horn. Galois Transformers and Modular Abstract Interpreters: Reusable Metatheory for Program Analysis. *Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*. ACM Press, 2015.

Ilya Sergey, Dominique Devriese, Matthew Might, Jan Midtgaard, David Darais, Dave Clarke, and Frank Piessens. Monadic Abstract Interpreters. *Programming Language Design and Implementation (PLDI)*. ACM Press, 2013.

Matthew Flatt, Ryan Culpepper, David Darais, and Robert Bruce Findler. Macros that Work Together: Compile-time Bindings, Partial Expansion, and Definition Contexts. *Journal of Functional Programming (JFP)*. Cambridge University Press, 2012.

Matthew Might, David Darais, and Daniel Spiewak. Parsing with Derivatives: A Functional Pearl. *International Conference on Functional Programming (ICFP)*. ACM Press, 2011.

Teaching

Spring 2016: Teaching Assistant, University of Maryland
CMSC 838G—Mechanized Proof and Verified Software, Prof. Michael Hicks

Fall 2014: Teaching Fellow, Harvard University
CS250—Software Foundations, Prof. Greg Morrisett

Spring 2014: Teaching Fellow, Harvard University
CS152—Programming Languages, Prof. Stephen Chong

Spring 2012: Head Teaching Fellow, Harvard University
CS51—Abstraction and Design, Prof. Greg Morrisett

Professional Activities

POPL 2018: Video Chair
OOPSLA 2017: Video Co-chair
ECOOP 2017: Doctoral Symposium Co-chair, Video Chair
PLDI 2017: Video Chair
POPL 2017: Video Chair
ECOOP 2016: Video Chair
PLDI 2016: Video Co-chair
POPL 2016: Artifact Evaluation Committee (AEC), Student Volunteer
ICFP 2013: Logo Designer, Student Volunteer Chair, Video Chair

Institutional Activities

Harvard Computer Science Graduate Council
Founding Chair, 2013–2015
Advocated for graduate students and fostered community within the department

Harvard School of Engineering and Applied Science Graduate Council
Founding Co-president (w/Christine Zgrabik), 2012–2013
Advocated for graduate students and fostered community within the school

Awards

Lin Fellowship, Harvard University, 2012
GSAS Graduate Fellowship, Harvard University, 2011
Magna Cum Laude Graduation Honors (3.97 GPA), University of Utah, 2011
College of Engineering Scholarships, University of Utah, 2007, 2008, 2009

Work Experience

Darais and Williams Consulting LLC
Partner, Salt Lake City, Utah, 2009–2011
End-to-end iPhone and web application development
Shipped two commercial products

Medvis LLC
Lead Developer, Salt Lake City, Utah, 2008–2011
Pharmacokinetic and pharmacodynamic drug modeling and simulation
Shipped three commercial products used in hospitals