

Brent Yorgey

Curriculum Vitae

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Computer and Information Science
Levine Hall, University of Pennsylvania
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RESEARCH INTERESTS

Programming languages, functional programming, embedded domain-specific languages, combinatorics, generic programming, type theory, dependent type systems

EDUCATION

Candidate for Ph.D. in Computer Science, University of Pennsylvania, September 2008–present

Advisor: Stephanie Weirich

B.A. in Computer Science, *summa cum laude*, Williams College, June 2000

AWARDS AND HONORS

Teaching Practicum Award, University of Pennsylvania, 2010

Sam Goldberg Colloquium Prize in Computer Science, Williams College, 2004

Phi Beta Kappa

Milken Scholar

National Merit Scholar

PROFESSIONAL EXPERIENCE

Research/Teaching Assistant

University of Pennsylvania, Philadelphia, PA, August 2008–present

Research Intern

Microsoft Research, Cambridge, England, June–August 2010

Worked on an experimental extension to the Glasgow Haskell Compiler with Simon Peyton Jones.

Software Developer

Ascella Technologies / CGI Federal, Washington, DC, July 2006–July 2008

Researcher

Williams College, Williamstown, MA, June–August 2003

Performed original research in computational geometry with Bill Lenhart.

Research Assistant

University of Maryland, College Park, MD, Spring 2000

Created real-time data compression utilities for experiments in molecular physics using high-speed cameras.

TEACHING EXPERIENCE

University of Pennsylvania

CIS 194, Introduction to Haskell (Course designer and instructor — F'10, S'12)

CIS 500, Software Foundations (TA — S'10, S'11)

CIS 120, Programming Languages and Techniques I (TA — F'09)

Woodrow Wilson Senior High School, Washington, DC, 2004–2006

Introduction to Computer Science

AP Computer Science AB
Honors Precalculus
Williams College, Williamstown, MA, 2001–2004
Discrete Mathematics (TA, S'01)
Computer Organization and Architecture (TA, F'01, F'02, F'03)
Abstract Algebra (TA, S'03)
Computational Geometry (TA, S'04)

REFEREED PUBLICATIONS

Brent A. Yorgey, Stephanie Weirich, Julien Cretin, Simon Peyton Jones, Dimitrios Vytiniotis, and José Pedro Magalhães. Giving Haskell a Promotion. In *Proceedings of the 7th ACM SIGPLAN Workshop on Types in Language Design and Implementation (TLDI '12)*. To appear.

Stephanie Weirich, Brent A. Yorgey, and Tim Sheard. Binders Unbound. In *Proceedings of the 16th ACM SIGPLAN International Conference on Functional Programming (ICFP '11)*, pages 333–345, New York, NY, USA, 2011.

Brent A. Yorgey. Species and Functors and Types, Oh My! In *Proceedings of the 3rd ACM SIGPLAN Symposium on Haskell (Haskell '10)*, pages 147–158, New York, NY, USA, 2010.

BOOKS

Benjamin C. Pierce, Chris Casinghino, Michael Greenberg, Vilhelm Sjöberg, and Brent Yorgey. *Software Foundations*. <http://www.seas.upenn.edu/~cis500/current/sf/html/index.html>.

OTHER PUBLICATIONS

Brent Yorgey. *The Typeclassopedia*. In: The Monad.Reader, Issue 13, March 2009.

Brent Yorgey. *Generating Multiset Partitions*. In: The Monad.Reader, Issue 8, September 2007.

Brent Yorgey. `blog :: Brent -> [String]`. <http://byorgey.wordpress.com>.
A blog aimed at the academic community, for discussing current ideas and research. June 2007–present.

Brent Yorgey. *The Math Less Traveled*. <http://www.mathlesstraveled.com>.
A blog aimed at a broad audience, especially high school students, exploring beautiful ideas in mathematics. March 2006–present.

TALKS

Typed type-level programming with GHC. Haskell Implementors' Workshop. October 1, 2010.

Species and Functors and Types, Oh My! Haskell Symposium. September 30, 2010.

Random testing—and beyond! with combinatorial species. University of Kansas. November 24, 2009.

Executable Mathematics: a Whirlwind Introduction to Haskell. Williams College. June 8, 2008.

xmonad: a Haskell Success Story. FringeDC, Washington, DC. March 22, 2008.

SERVICE

Penn Alexander middle school math club, October 2009–November 2010.
Volunteered to help lead middle school students in a variety of fun and engaging mathematical explorations.

Editor, *The Monad.Reader*, October 2009–October 2011
A free electronic magazine about functional programming, targeted at the Haskell community.

Organizer, Hac φ (July 2009, May 2010, July 2011)

Open three-day meetings for collaboration on projects using the functional programming language Haskell, with around 30 attendees.

Editor, *Haskell Weekly News*, June 2008–August 2009

Collected and published a weekly gathering of news items from the Haskell programming language community.