J. Ian Johnson

OBJECTIVE

A position in the betterment of programming language technology (implementation, analysis, dev tools) in the Boston area

EDUCATION

2011– *projected* May 2015 — **Doctorate of Philosophy**, *Northeastern University*, Boston, MA.
Computer Science

2009–2011 — **Master of Science**, *Northeastern University*, Boston, MA.
Computer Science

2005–2009 — **Bachelor of Science**, *University of Texas at Austin*, Austin, TX, GPA 4.0.
Computer Science

2005–2009 — **Bachelor of Science**, *University of Texas at Austin*, Austin, TX, GPA 3.8.
Pure Mathematics

PROFESSIONAL EXPERIENCE

June – August 2009 — **SDE Intern**, *BMT Scientic Marine Services, Inc.*, Houston, TX.
- Created statistical visualization/analysis software in C# and ZedGraph
- Initial research on integrating a 6DoF accelerometer with GPS in a Kalman filter

June – August 2008 — **SDE Intern**, *Microsoft Corporation*, Redmond, WA.
Sharepoint development
- Created front-end administrative applications in ASP.NET
- Created back-end administrative applications in Powershell

December 2007 — **Software consultant**, *BMT Scientic Marine Services, Inc.*, Houston, TX.
- Designed and prototyped an architecture to store, and a web interface to visualize timeseries data

May – August 2007 — **SDET Intern**, *NVIDIA Corporation*, Santa Clara, CA.
Developed tests for the Windows OpenGL driver.

June – August 2006 — **SDE Intern**, *BMT Scientic Marine Services, Inc.*, Houston, TX.
- Control for a 1-axis robot to simulate random wave motion with spectral analysis
- User mode drivers for various devices.

A SELECTION OF COMPUTER SKILLS

- Languages (>10KLoC): in C/C++, Java, C#, Racket (PLT Scheme), ACL2, Coq, PHP, HTML
  (>1KLoC) JavaScript, SQL, Haskell, Python, CSS

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- Editors: Emacs, Visual Studio (up to 2009), Eclipse
- Operating Systems: Linux (Ubuntu since Dapper), Windows (95 - 7)

PUBLICATIONS

- "Abstracting Abstract Control," DLS 2014
- "Pushdown flow analysis with abstract garbage collection," JFP Best of ICFP 2012
- "Optimizing Abstract Abstract Machines," ICFP 2013

TALKS

- "Abstracting Abstract Control," DLS 2014
- "Optimizing Abstract Abstract Machines," ICFP 2013
- "Concrete Semantics for Pushdown Analysis: The Essence of Summarization," HOPA 2013
- "Designing Precise, Pushdown, Higher-Order Flow Analyses," IBM PL Day 2012

HONORS

Dean's fellowship, Northeastern University

INTERESTS

Parenting, programming language semantics, hygienic macros and staged compilation, optimizing high-level languages, interactive and automated theorem proving (rewriting logic, SMT solving, type theory), history of mathematics, biographies of scientists, gaming (console/PC/tabletop), walking, cooking, homebrewing, speaking Japanese, playing classical piano, enjoying heavy metal

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