J. Ian Johnson

OBJECTIVE

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

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 AND AWARDS

(2014) Dissertation completion fellowship, Northeastern University (2009) Dean's fellowship, CCIS, 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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