

Tharpe Stephen Strickland IV

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Skills

Programming Languages: Bourne and Bash shell scripting, C, C++, Haskell, Java, Lisp, Objective C, Perl, Python, Racket, Scheme, Smalltalk, Standard ML

Markup Languages: CSS, (X)HTML, L^AT_EX

Operating Systems: Linux, Mac OS X, Solaris, Windows

Natural Languages: Fluent spoken/written English, advanced spoken/written German

Miscellaneous: Strong research/implementation skills, Linux/Mac OS X systems administration

Work History

Graduate Research Assistant Nov. 2004 - Aug. 2005, Sep. 2007 - current
Northeastern University Boston, MA

- Extended the Racket contract system to first-class modules, first-class classes, and values with mutable state.
- Proposed and implemented non-uniform variable-arity polymorphism.
- Designed models of these features and proved these models sound.
- Implemented the models in PLT Redex to provide usable prototypes.

Software Engineer Nov. 2005 - Feb. 2008
Reflex Security, Inc. Atlanta, GA

- Programmed and maintained software in C and Python for a network security sensor.
- Investigated and implemented algorithms for detecting malicious network traffic.
- Ported the existing software base to a platform provided by Bivio Systems and to the IBM BladeCenter platform.
- Implemented changes to the development workflow to streamline the process for adding new features and bugfixes while increasing peer review.

Graduate Research Assistant May 2002 - Aug. 2004
Georgia Institute of Technology Atlanta, GA

- Worked for Olin Shivers on the Bottom Up Beta Substitution lambda calculus engine.
- Implemented the BUBS system in both Standard ML and C.
- Implemented opposing LC systems and ran tests to benchmark them against BUBS.

Linux Distribution Developer (Volunteer)

Jan. 2000 - July 2007

Debian GNU/Linux

- Packaged software for inclusion in the Debian GNU/Linux distribution
- Discussed and voted on issues concerning the Debian Project and the distribution
- Provided help for users of the distribution via IRC, via mailing list, and in person

Education

Northeastern University

Boston, MA

Ph.D., Computer Science, ongoing

Specialization: Programming languages

Working Dissertation Title: *Scaling Contracts to Realistic Languages*

Georgia Institute of Technology

Atlanta, GA

M.S., Computer Science, May 2004

Specialization: Programming languages and compilers

Georgia Institute of Technology

Atlanta, GA

B.S., Computer Science, May 2002

Specializations: Systems, Networking, Graphics

Graduated with highest honors (GPA 3.77)

Publications

Variable-Arity Polymorphism. T. Stephen Strickland, Sam Tobin-Hochstadt, and Matthias Felleisen. ESOP 2009.

Nested and Dynamic Contract Boundaries. T. Stephen Strickland and Matthias Felleisen. IFL 2009.

Contracts for First-Class Modules. T. Stephen Strickland and Matthias Felleisen. DLS 2009.

Contracts for First-Class Classes. T. Stephen Strickland and Matthias Felleisen. DLS 2010.

Research Interests

- Efficient implementation of functional and object-oriented programming languages
- Protection of code components through declarative specifications
- Type theory in programming languages

References available on request.