Phillip Mates — Resume

Northeastern, CCIS	**Email:** mates@ccs.neu.edu
308 West Village H	**Web:** http://www.ccs.neu.edu/home/mates/
360 Huntington Avenue	**Phone:** +1 801 518 3298
Boston, MA 02115	**Citizenship:** USA, Brazil

STATEMENT

I have spent the last 2 years as a PhD student conducting research in the area of Programming Languages. I built formal models to explore the correctness of compilers and equivalences between programs. My graduate explorations have given me a deep understanding of the invariants and limits of languages and I am excited to apply my expertise in a practical setting.

EDUCATION

Northeastern University, Boston, MA — *2012 – 2014*
MS in Computer Science, *December 2014*
Advisor: Amal Ahmed

University of Utah, Salt Lake City, UT — *2008 – 2011*
BS with honors in Computer Science, *December 2011*

PROGRAMMING & RESEARCH EXPERIENCE

Research Assistant, University of Utah, UT — *Summer 2012*
Built a static analyzer capable of statically verifying permission usage of Android applications. The analyzer targeted Dalvik byte-code and supported higher-order control flow.
Mentor: Matthew Might

Software Engineer, Space Monkey, UT — *Summer 2012*
Developed device monitoring software in Node.js during a brief period between my undergraduate and graduate studies.

Software Engineer Intern, Google Santa Monica, CA — *2011*
Built a domain name classifier to enforce policy violations and developed internal analytics scripts.
Mentor: Joe Vanderwaart

Visiting Research Student, Institute for Theoretical Physics, ETH Zürich — *2010*
Worked with Computational Physicists to create useful data management tools. Surveyed the field of Randomness Extractors and explored possible implementation designs for use in Monte Carlo simulations.
Mentor: Matthias Troyer

Research Undergrad, Scientific Computing and Imaging Institute, UT — *2009 – 2010*
Lead developer of an online visualization repository which leveraged the VisTrails system to foster collaboration and enable scientists to easily present and share their visualizations. Developer for the VisTrails open-source provenance and workflow management system.
Mentor: Claudio Silva

TRAINING	**PhD summer schools**
	◇ Oregon Programming Languages Summer School *2012*
	◇ Institut Henri Poincaré thematic trimester:
	Semantics of proofs and certified mathematics *2014*

PUBLICATIONS

A Provenance-Based Infrastructure to Support the Life Cycle of Executable *ICCS 2011*
Papers
D. Koop, E. Santos, P. Mates, H. Vo, P. Bonnet, B. Bauer, B. Surer, M. Troyer, D.
Williams, J. Tohline, J. Freire and C. Silva.
International Conference on Computational Science

CrowdLabs: Social Analysis and Visualization for the Sciences *SSDBM 2011*
P. Mates, E. Santos, J. Freire and C. Silva
International Conference on Scientific and Statistical Database Management

The ALPS project release 2.0:
Open source software for strongly correlated systems *JSTAT 2011*
B. Bauer et al. (ALPS collaboration).
Journal of Statistical Mechanics: Theory and Experiment

Towards Supporting Collaborative Data Analysis and Visualization
in a Coastal Margin Observatory *CSCW 2010*
E. Santos, P. Mates, E. Anderson, B. Grimm, J. Freire and C. Silva
Workshop on The Changing Dynamics of Scientific Collaboration

TALKS

Kripke Logical Relation for Affine Functions:
The Story of a Free Theorem in the Presence of Non-termination *Sept. 2013*
The 2nd ACM SIGPLAN Workshop on Higher-Order Programming with
Effects, Boston, MA

POSTERS

Analyzing Android Applications with Abstract Interpretation *ICFP 2012*
Student Research Competition

TEACHING
EXPERIENCE

Teaching assistant, CS2500 *Introduction to Programming and Computing* *2012,2014*
Introductory undergraduate CS course at Northeastern University
modeled off of "How to Design Programs".

TECHNICAL
SKILLS

Proficient: Python
Familiar: Java, C, Haskell, Racket, Coq

REFERENCES

◇ Amal Ahmed, amal@ccs.neu.edu *Assistant Professor*
    College of Computer and Information Science at NEU
◇ Matt Might, might@cs.utah.edu *Associate Professor*
    School of Computing at U of U
◇ Claudio T. Silva, csilva@nyu.edu *Professor*
    Computer Science and Engineering at NYU Poly