Joel Galenson

Contact Information

Computer Science
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Research Interests

Program synthesis, static and dynamic analysis, testing, compilers, language design

Education

University of California, Berkeley 2014
Ph.D.
Advisors: Rastislav Bodik and Koushik Sen

Stanford University 2008
B.S. (honors, distinction)

Honors and Awards

2^{nd} place, LIVE 2013 2013
Best Student Paper Award, ADKDD 08 2008
Winner of 3D video game competition at Stanford 2007
Tau Beta Pi (junior year) 2007

Publications

Joel Galenson. Dynamic and Interactive Synthesis of Code Snippets. Ph.D. Dissertation, 2014.

Joel Galenson, Philip Reames, Rastislav Bodik, Bjoern Hartmann, and Koushik Sen. CodeHint: Dynamic and Interactive Synthesis of Code Snippets. In *International Conference on Software Engineering (ICSE 2014)*, Hyderabad, India, 2014.

Mihai Budiu, Joel Galenson, and Gordon D. Plotkin. The Compiler Forest. In *Proceedings of the 22nd European conference on Programming Languages and Systems (ESOP 2013)*, Rome, Italy, 2013.

David Gay, Joel Galenson, Mayur Naik, and Kathy Yelick. Yada: Straightforward Parallel Programming. In *Parallel Computing*, Elsevier, 2011.

Rastislav Bodik, Satish Chandra, Joel Galenson, Doug Kimmelman, Nicholas Tung, Shaon Barman, and Casey Rodarmor. Programming with Angelic Nondeterminism. In *Proceedings of the 37th Symposium on Principles of Programming Languages (POPL 2010)*, Madrid, Spain, 2010.

Jason Auerbach, Joel Galenson, and Mukund Sundararajan. An empirical analysis of return on investment maximization in sponsored search auctions. In *Proceedings of the Second International Workshop on Data Mining and Audience Intelligence for Advertising (ADKDD 2008)*, Las Vegas, Nevada, USA, 2008.

Refereed Presentations

CodeHint: Dynamic and Interactive Synthesis for Modern IDEs. Future Programming Workshop, 2014.

Code Hint. First International Workshop on Live Programming, 2013.

Experience

Senior Engineer, Qualcomm Research Silicon Valley Fall 2014 - Present
Researching compilation techniques for programming special purpose accelerator architectures.

Graduate Student Researcher, University of California, Berkeley Fall 2008 - Summer 2014

Am a member of the Parallel Computing Laboratory (Par Lab).

Teaching Assistant, University of California, Berkeley — Spring 2014
Was a TA for CS 61B: Data Structures.

Intern, Microsoft Research Silicon Valley — Summer 2011
Worked on an architecture for modular cooperating compilers.

Intern, Microsoft Research Silicon Valley — Summer 2010
Worked on a new architecture for evaluating LINQ queries that encompasses DryadLINQ.

Teaching Assistant, University of California, Berkeley — Fall 2009
Was a TA for CS 164: Programming Languages and Compilers.

Intern, IBM T.J. Watson Research Center — Summer 2009
Worked on the constraint-based type system for the X10 language.

Platform intern, Mozilla — Summer 2008
Worked on a native code compiler for regular expressions.

Section Leader for CS 106, Stanford University — Fall 2005 - Summer 2008
Taught a section covering introductory programming topics, graded homework and exams, staffed a help desk.

Researcher, Stanford University — Summer 2006 - Spring 2008

- Built a verifying compiler for Zohar Manna and Aaron Bradley.
- Worked on two static analysis tools for Zohar Manna.
- Investigated the properties of online ad auctions and bidder strategies with Tim Roughgarden.
- Developed methods to enable the use of remote computers to speed up data processing by a robot for Andrew Ng.
- Developed techniques for visualizing personal information spaces for Pat Hanrahan.

Teaching Assistant, Stanford University — Winter 2008
Was a TA for CS 156: Calculus of Computation.

Resident Computer Consultant, Stanford University — Fall 2006 - Spring 2008
Assisted undergraduates with personal computer problems and administered a dorm network.

Professional Activities

Artifact Evaluation Committee: POPL	2015
External reviewer: PLDI, CAV	2014
External reviewer: ASPLOS, OOPSLA, VMCAI	2013
Graduate Admissions Committee, UC Berkeley	2009

Leadership

Computer Science Graduate Student Association member	Fall 2013 - Spring 2014
Graduate Assembly committee representative	Fall 2013 - Spring 2014
Organized UC Berkeley Programming Languages seminars	Fall 2009 - Summer 2014

Computer Skills

C, C++, Java, Scala, OCaml, C#, Python, JavaScript, LaTeX, HTML

References

Available on request