Gowtham Kaki
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Research Focus Applying PL techniques to simplify programming highly-scalable data-intensive applications.

Education

Ph.D., Computer Science. 2012 - present
Advised by Prof. Suresh Jagannathan.
Purdue University, West Lafayette, IN.

M.S., Computer Science. May, 2016
Purdue University, West Lafayette, IN.
GPA: 3.77/4.0

B.E.(Hons)., Computer Science. July, 2009
BITS, Pilani, India.
GPA: 8.68/10.0

Publications

Gowtham Kaki, Kartik Nagar, Mahsa Najafzadeh, and Suresh Jagannathan. Alone Together: Compositional Reasoning and Inference for Weak Isolation. In proceedings of ACM SIGPLAN Conference on Principles of Programming Langauges (POPL), 2018 (To appear).

Gowtham Kaki, KC Sivaramakrishnan, Samodya Abeysiriwardane, and Suresh Jagannathan. Mergeable Types. At ML Family Workshop, 2017.

KC Sivaramakrishnan, Gowtham Kaki, and Suresh Jagannathan. Representation without Taxation: A Uniform, Low-Overhead, and High-Level Interface to Eventually Consistent Key-Value Stores. In IEEE Data Engineering Bulletin, 2016.

KC Sivaramakrishnan, Gowtham Kaki, and Suresh Jagannathan. Declarative Programming over Eventually Consistent Data Stores. In proceedings of ACM SIGPLAN Conference on Programming Languages Design and Implementation (PLDI), 2015.

Gowtham Kaki, and Suresh Jagannathan. A Relational Framework for Higher-Order Shape Analysis. In proceedings of ACM SIGPLAN International Conference on Functional Programming (ICFP), 2014.

Sunita Bansal, Gowtham Kaki, and Chittaranjan Hota. A Novel Adaptive Scheduling Algorithm for Computational Grids. In Proceedings of IEEE International Conference on Internet Multimedia Systems Architecture and Application (IMSAA), 2009.

Preprints/Drafts

Gowtham Kaki, Ganesan Ramalingam, Kapil Vaswani, and Dimitrios Vytioniotis. Safe Tansferable Regions for Big Data Processing. MSR Tech Report.

Gowtham Kaki, and Suresh Jagannathan. A Lightweight Symbolic Execution Framework for Ruby-on-Rails. Extended abstract presented at PLDI 2016 Student Research Competition (SRC).

Gowtham Kaki, Kapil Earanky, KC Sivaramakrishnan, and Suresh Jagannathan. From ACID to BASE: Effective Verification of Highly-Scalable Transactions through Bounded Staleness. Draft available on request.

Professional Experience

Research Intern, Microsoft Research India, Bangalore
(May - August, 2014 & July-August, 2015) Built a region type system and region type inference to ensure the safety of dataflow programs that rely on programmer-managed memory regions, instead of garbage collection for memory management.

Software Engineer, Yahoo SDC, Bangalore, India August, 2009 - July, 2011
Frontend engineering for Yahoo content platforms group. Developed AJAX and php tools for querying, processing and presenting loosely-structured data from various content grids inside yahoo. The tools were used by Yahoo's content curators.

Engineering intern, Qualcomm, Hyderabad, India January - June, 2009
QA Engineering for Application-specific integrated circuit (ASIC) - User interface module (UIM) group. Developed tools to test low-level mobile network code.

Course Work

Design & Analysis of Algorithms (A), Programming Languages (A), Software Engineering (B), Metaprogramming and Program Generation (A+), Distributed Systems (A), Parallel Computing (A), and Current topics in Theoretical Computer Science (A-).

Teaching Assistantship

- CS240 C Programming. Fall 2012.
- CS565 Programming Languages. Spring, 2013.

Grants and Scholarships

- NSF Travel grant for PLDI 2014
- ACM SIGPLAN PAC travel grant for ICFP 2014.
- ACM SIGPLAN PLMW scholarship for POPL 2014.
- Institute merit-cum-need scholarship during all semesters of my undergraduate education at BITS, Pilani, India.

Professional Service

- Coordinating weekly sessions of Purdue PL (PurPL) reading group. Notes/Slides for some sessions when I led the discussion are available on my web page.
- Purdue CS Graduate Student Board (GSB) office member, Fall 2011 and Spring 2012.
- Secretary (junior year), and office member (freshman and sophomore years) of Computer Science Association (CSA) BITS, Pilani. We organized our techfest (APOGEE) in 2008.

References

Prof. Suresh Jagannathan (Purdue University).
Dr. KC Sivaramakrishnan (Cambridge University)
Dr. Ganesan Ramalingam (Microsoft Research).
Other references will be available on request.