

Gowtham Kaki

<https://gowthamk.github.io>

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- Research Focus** Applying language design and automated reasoning techniques to simplify programming complex real-world systems.
- 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, Kapil Earanky, KC Sivaramakrishnan, and Suresh Jagannathan. Safe Replication through Bounded Concurrency Verification. In the proceedings of ACM SIGPLAN Conference on Object-Oriented Programming Systems Languages and Applications (OOPSLA), 2018.
- Gowtham Kaki, and G Ramalingam. Safe Transferable Regions. In the proceedings of the European Conference on Object-Oriented Programming (ECOOP), 2018.
- Gowtham Kaki, Kartik Nagar, Mahsa Najafzadeh, and Suresh Jagannathan. Alone Together: Compositional Reasoning and Inference for Weak Isolation. In the proceedings of ACM SIGPLAN Conference on Principles of Programming Languages (POPL), 2018.
- 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 the 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 the 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 the proceedings of IEEE International Conference on Internet Multimedia Systems Architecture and Application (IMSAA), 2009.
- Preprints/Drafts**
- Gowtham Kaki, KC Sivaramakrishnan, Samodya Abey Siriwardane, and Suresh Jagannathan. Mergeable Types. Extended abstract presented at ML Family Workshop, 2017.
- Gowtham Kaki, and Suresh Jagannathan. A Lightweight Symbolic Execution Framework for Ruby-on-Rails. Extended abstract presented at PLDI 2016 Student Research

Competition (SRC).

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.

Awards and Fellowships

- Google PhD Fellowship, 2018¹.
- ACM SIGPLAN PAC funding for ICFP'14 and OOPSLA'18.
- ECOOP travel funding, 2018.
- ACM SIGPLAN PLMW scholarship, 2014.
- Institute merit-cum-need scholarship during all semesters of my undergraduate education at BITS Pilani, India.

Professional Service

- Served on Artifact Evaluation Committees (AECs) of PLDI'16, ICFP'17, and ICFP'18.
- Started the Purdue PL (PurPL) reading group in Fall, 2013, which has since taken a life of its own to become an umbrella organization for all PL groups at Purdue².
- Served on Purdue CS Graduate Student Board (GSB), 2011-2012.
- Served as the Secretary of Computer Science Association (CSA) at BITS Pilani, 2007-08.

References

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

¹<https://ai.googleblog.com/2018/04/announcing-2018-google-phd-fellows-for.html>

² <http://purduepl.github.io/>