

Karthik Swaminathan Nagaraj

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Department of Computer Science
Purdue University
305 N. University Street
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EDUCATION

PURDUE UNIVERSITY, W Lafayette, USA

PhD student in Computer Science, Fall 2008 - Dec 2013 (expected), **GPA: 4.0/4.0**

Advisor: Dr. Charles Killian

PURDUE UNIVERSITY, W Lafayette, USA

MS in Computer Science, May 2011, **GPA: 4.0/4.0**

NATIONAL INSTITUTE OF TECHNOLOGY, Trichy, India

Bachelor of Technology in Computer Science and Engineering, May 2008

First class with Distinction, **Undergraduate GPA: 9.14/10.0**

RESEARCH INTERESTS

Distributed systems, Cloud computing & Data centers, Machine Learning, Overlay networks

EXPERIENCE

- **Software Engineer Intern at Google**, Mountain View. Summer 2009 with Rushabh Doshi.
 - Worked with Video processing pipeline team on building a new upload framework (including YouTube).
 - Allowed videos to go *live* as soon they are uploaded.
 - Was responsible in testing my code on Development and Staging, before pushing it to Production.
- **Research Assistant** at Dept of Computer Science. Since Spring 2009 under Prof. Charles Killian.
- **Teaching Assistant** for Introduction to Distributed Systems (CS505), Spring 2010.
- **Research Assistant** at Rosen Centre of Advanced Computing. Fall 2008 with Faisal Saied.
 - High performance and Parallel computing benchmarking of a Top 500 supercomputer

REFEREED CONFERENCE PUBLICATIONS

- *Karthik Nagaraj*, Charles Killian, Jennifer Neville. **Structured Comparative Analysis of Systems Logs to Diagnose Performance Problems**. To appear at 9th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2012). San Jose, CA. (17% acceptance rate)
- *Karthik Nagaraj*, Hitesh Khandelwal, Charles Killian, Ramana Rao Kompella. **Hierarchy-Aware Distributed Overlays in Data Centers using DC2**. At 4th International Conference on Communication Systems and Networks (COMSNETS 2012). Bangalore, India.
- Charles Killian, *Karthik Nagaraj*, Salman Pervez, Ryan Braud, James W. Anderson and Ranjit Jhala. **Finding Latent Performance Bugs in Systems Implementations**. At 18th International Symposium on the Foundations of Software Engineering (FSE 2010). Santa Fe, New Mexico.
- KC Sivaramakrishnan, *Karthik Nagaraj*, Lukasz Ziarek and Patrick Eugster. **Efficient Session Type Guided Distributed Interaction**. At 12th International Conference on Coordination Models and Languages (COORDINATION 2010). Amsterdam, Netherlands.

POSTERS

- *Karthik Nagaraj*, Charles Killian, Jennifer Neville. **Tracking Behavioral Changes in Distributed Systems using Distalyzer** at 23rd ACM Symposium on Operating Systems Principles (SOSP 2011). Cascais, Portugal.

- *Karthik Nagaraj*, Charles Kilian, Jennifer Neville. **Structured Comparative Analysis of Systems Logs using Distalyzer** at 8th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2011). Boston, MA.
- *Karthik Nagaraj*, Hitesh Khandelwal, Ramana Rao Kompella, Charles Killian. **DC2: Scalable Distributed Communication Middleware for the Cloud** at 7th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2010). San Jose, CA.
- *Karthik Nagaraj*, Ramana Rao Kompella, Charles Killian. **Distributed Social Networking** at 6th USENIX Symposium on Networked Systems Design and Implementation (NSDI 2009). Boston, MA.

SOFTWARE SKILL SET

Languages: C, C++, Python, Java, Perl, Javascript, Php, MySQL, Verilog HDL
Operating systems: GNU/Linux, Windows XP/Vista

COURSEWORK

Graduate level: Advanced Topics in Distributed Systems, Introduction to Distributed Systems, Data Mining, Datacenter Architecture, Computer Networks, Algorithms, Inter-networking, Parallel computing

OTHER PROJECTS

- Distributed Systems Events Characterization through Cluster Analysis (Fall 2010)
- Performance Evaluation of Google Cluster Architecture using Mace (Fall 2008)
- Creation of an Automatic Assembly program Generator for Microprocessors (Final B. Tech project)
- Performance evaluation of the Protocol for Evolutionary Addressing as a part of *Summer Fellowship Program*, Indian Institute of Technology, Madras (Summer 2007)
- Study of the x86 architecture of microprocessors, Indian Institute of Technology, Madras (Summer 2006)

AWARDS & ACHIEVEMENTS

- Travel grants to attend Networked Systems Design & Implementation (NSDI) 2011 and 2009.
- Winner of the Orbitz 2010 Coding challenge.
- Selected as one of 20 students for Summer Fellowship program, IITM.
- School topper in Computer Science during 12th grade in 2004.
- Awarded certificate of excellence at the National Chemistry Olympiad 2003.

CO-CURRICULAR ACHIEVEMENTS

- Event Manager for War of the Bots, an AI programming contest at Pragyan '08, the international techno-management festival of NIT, Trichy
- Event Coordinator for Technical Quiz at Pragyan '07
- Winner of Adventure Web Designing at Pragyan '07
- Designed an FTP crawler and search [<http://sourceforge.net/projects/ftp-crawler/>]

REFERENCES

On Request.