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## Education

- 2015    University of Illinois at Urbana-Champaign  
         Ph.D. in Computer Science  
         Advisor: Prof. P. Brighten Godfrey
- 2009    Indian Institute of Technology at Kharagpur  
         B.Tech.(Honours) in Computer Science and Engineering  
         Thesis title: Misbehavior Detection in Vehicular Ad Hoc Networks

## Publications

- Ashish Vulimiri, Carlo Curino, Brighten Godfrey, Thomas Jungblut, Jitu Padhye, George Varghese, “Global analytics in the face of bandwidth and regulatory constraints”, *USENIX NSDI 2015*
- Ashish Vulimiri, Carlo Curino, Brighten Godfrey, Thomas Jungblut, Konstantinos Karanasos, Jitu Padhye, George Varghese, “WANalytics: Geo-distributed analytics for a data-intensive world”, demo at *ACM SIGMOD 2015*
- Ashish Vulimiri, Carlo Curino, Brighten Godfrey, Konstantinos Karanasos, George Varghese, “WANalytics: Analytics for a geo-distributed data-intensive world”, *ACM CIDR 2015*
- Ashish Vulimiri, Brighten Godfrey, Radhika Mittal, Justine Sherry, Sylvia Ratnasamy, Scott Shenker, “Low latency via redundancy”, *ACM CoNEXT 2013*
- Ashish Vulimiri, Oliver Michel, Brighten Godfrey, Scott Shenker, “More is less: Reducing latency via redundancy”, *ACM HotNets 2012*
- Ashish Vulimiri, Gul A. Agha, Brighten Godfrey, Karthik Lakshminarayanan, “How well can congestion pricing neutralize denial-of-service attacks?”, *ACM SIGMETRICS 2012*
- Anjan Sarkar, Ashish Vulimiri, Suman Paul, Mohammed J. Iqbal, Avishek Banerjee, Rahul Chatterjee, Shibendu S. Ray, “Unsupervised and supervised classification of hyperspectral image data using projection pursuit and Markov random field segmentation”, *International Journal of Remote Sensing*, Vol. 33 Issue 18, 2012
- Ashish Vulimiri, Arobinda Gupta, Pramt Roy, Skanda N. Muthaiah, Arzad A. Kherani, “Application of secondary information for misbehavior detection in VANETs”, *IFIP Networking 2010*
- Anjan Sarkar, Ashish Vulimiri, Shantanu Bose, Suman Paul, Shibendu S. Ray, “Unsupervised hyperspectral image analysis with projection pursuit and MRF segmentation approach”, in *2008 International Conference on Artificial Intelligence and Pattern Recognition (AIPR-08)*

## Talks and Posters

- “Reducing latency via redundancy”: Invited talk at the 15th National Science Foundation GENI Engineering Conference (GEC15, Aug 2012)
- “Adaptive routing with end-to-end feedback”
  - Talk at GEC9 (Nov 2010)
  - Poster at GEC8 (Jul 2010)

## Employment

2015 – present	Researcher, Samsung Research America
2009 – 2015	Research Assistant, Department of Computer Science, University of Illinois at Urbana-Champaign
Summer 2014	Intern, Microsoft CISL, Silicon Valley
Summer 2013	Intern, Microsoft Research, Silicon Valley
Summer 2011	Intern, Microsoft Research, Cambridge
Summer 2008	Intern, Microsoft Research, Redmond
May 2007 – Aug 2008	Software Engineer (part-time), Minekey Inc.

## Projects

- **Geo-distributed analytics**

*with* Carlo Curino, Microsoft CISL, and George Varghese, Microsoft Research, Silicon Valley

Worked on building a system supporting data analytics on massive volumes of data collected across several data centers around the world, incorporating a range of optimizations to reduce data transfer costs. The prototype I built functions as a drop-in multi-data center replacement for Apache Hive and Oozie, standard local analytics frameworks in the Apache Hadoop ecosystem.

- **Reducing latency via redundancy**

*with* Brighten Godfrey, UIUC and Scott Shenker, UC Berkeley

Investigated request replication as a general-purpose technique for reducing latency. I evaluated the tradeoff between added overhead and reduced latency both empirically, by running large scale experiments with a range of systems including DNS, data center networks, key-value stores, the TCP handshake, and multipath overlay networks; and analytically, by studying queueing-theoretic and economic models of system performance.

- **Scheduling multi-resource jobs**

*with* Hitesh Ballani and Thomas Karagiannis, Microsoft Research Cambridge

Developed an alternative Apache Hadoop scheduler that achieved increased cluster utilization by ensuring a mix of tasks with different resource profiles at every node, avoiding e.g. co-scheduling IO-intensive tasks on the same node.

- **Mitigating denial-of-service attacks via congestion pricing**

*with* Brighten Godfrey, UIUC and Karthik Lakshminarayanan, Google

Evaluated congestion pricing as a way of mitigating DoS attacks, via a game-theoretic analysis backed by large-scale simulations.

## Teaching

Fall 2012	Teaching Assistant, Department of Computer Science, UIUC Fundamental Algorithms (CS 473)
Spring 2012	Teaching Assistant, Department of Computer Science, UIUC Undergraduate Research Laboratory (CS 498LA)

## Professional Activities

- Reviewer for: IEEE Trans. on Computer Systems, IEEE Trans. on Networking, IEEE Trans. on Parallel and Distributed Systems, IEEE Trans. on Big Data, IEEE Trans. on Communications, IEEE Network, IEEE Self-adaptive and Self-organizing Systems, IEEE GlobeCom URLLC, ACM Computer Communications Review
- Advised undergraduate student Zitian Liu on work that led to his undergraduate thesis

- Advised seven undergraduate students on semester-long research projects in Spring 2012, as the TA for CS 498LA (Undergraduate Research Laboratory)