Curriculum Vitae

Kaushik Lakshminarayanan

Computer Science Department,
Carnegie Mellon University.
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1 Education

Carnegie Mellon University

Ph.D., Computer Science — Fall '07 – Present
Advisor: Prof. Peter Steenkiste

Indian Institute of Technology Madras

Bachelor of Technology, Computer Science and Engineering — July '03 – May '07

2 Research Interests

Networks and Distributed Systems.

3 Publications

[1] Kaushik Lakshminarayanan, Samir Sapra, Srinivasan Seshan, Peter Steenkiste. RFDump: An Architecture for Monitoring the Wireless Ether. *ACM CoNEXT*, Rome, Italy, Dec 2009.

[2] Cheng Tien Ee, Vijay Ramachandran, Byung-Gon Chun, Kaushik Lakshminarayanan, Scott Shenker. Resolving Inter-Domain Policy Disputes. *ACM SIGCOMM*, Kyoto, Japan, August 2007.

4 Research Experience

Graduate Research Project (Networking) — Fall '07 – Present

Carnegie Mellon University
Advisors: Prof. Peter Steenkiste and Prof. Srinivasan Seshan
Emphasis: Wireless Monitoring and Automated Diagnosis

Summer Research Internship (Networking) — Summer '06

International Computer Science Institute (ICSI), Berkeley
Mentor: Prof. Scott Shenker
Emphasis: Inter-Domain Routing Stability

Undergraduate Project (Theory) Aug '06 – May '07

Indian Institute of Technology Madras
Advisor: Prof. N. S. Narayanaswamy
Emphasis: Combinatorial optimization and approximation algorithms
Thesis: A Theoretical Analysis of the Vehicle Routing Problem with Deadlines

Summer Research Project (Architecture/Machine Learning) Summer '05

Indian Institute of Technology Madras
Advisors: Prof. V. Kamakoti and Prof. B. Ravindran
Emphasis: Placement and Routing in 3D FPGAs using Reinforcement Learning

5 Teaching Experience

Teaching Assistant for 15-441: Computer Networks Spring '10
Instructors: Prof. Srinivasan Seshan and Prof. Seth Goldstein

6 Relevant Courses Undertaken

- **CMU**. Cognitive Networking, Graduate Computer Networks, Advanced Operating Systems and Distributed Systems, Computer Architecture, Machine Learning, Algorithms in the Real World, Computer Security.
- **IIT Madras**. Computer Networks, Operating Systems, Performance Evaluation of Systems, Network Management Systems, Principles of Communication, Computer Systems Design, Software Engineering, Graph Theory, Design and Analysis of Algorithms, Combinatorial Optimization, Probability and Random Processes, Artificial Intelligence.

7 Select Course Projects

- **Cognitive Networking.** Designed algorithms and techniques for addressing the problems of AP discovery and spectrum allocation in white space networks.
- **Computer Networks.** Developed a simple measurement-based model for Internet paths based on a single bottleneck assumption using TCP flows.
- **Computer Architecture.** Worked on designing a new hardware-based transactional memory architecture.
- **Artificial Intelligence.** Designed a heuristic function for *pentaline*, one of the games in *Gtkboard*, an opensource package, by modifying the original function. Not only did our implementation come first in the game tournament held as part of the Artificial Intelligence course, but also won against the original implementation.