

SRINIVASAN SESHAN

EDUCATION

12/95 Doctor of Philosophy in Computer Science

5/93 Master of Science in Computer Science

University of California at Berkeley

Advisor: Randy H. Katz

PhD Thesis: "Reducing Handoff Latency in Cellular Wireless Data Networks"

MS Thesis: "An Efficient Network Interface for the RAID-II File Server"

5/90 Bachelor of Science with High Honors in Electrical Engineering & Computer Science

University of California at Berkeley

EMPLOYMENT

6/04 – 6/06 Finmeccanica Associate Professor, Computer Science Dept., Carnegie Mellon University

7/03 – Present Associate Professor, Computer Science Dept., Carnegie Mellon University

9/00 – 6/03 Assistant Professor, Computer Science Dept., Carnegie Mellon University

- Founded Distributed systems, Network protocols & Applications (DNA) research group
- Current research topics explore new approaches in overlay networking, sensor networking, online multiplayer games and wide-area Internet routing

12/95 – 8/00 Research Staff Member, IBM T.J. Watson Research

- Member of the Networking and Security department
- Worked on the characterization of wide area traffic on the Internet. Objective of this work was to identify possible improvements in TCP, HTTP and network application design
- Worked on firewall design and implementation. Objective of this work was to build a high performance firewall that can be easily modified to support new applications and network protocols

1/99 – 5/99 Lecturer and Visiting Scientist, Massachusetts Institute of Technology

- Collaborated with Professor Hari Balakrishnan and his graduate students on the Wireless Network of Devices (WIND) and Congestion Manager (CM) projects

9/94 – 12/95 Daedalus/BARWAN Project Member, University of California at Berkeley

- Member of the Daedalus networking group. Goal of the project was to combine intelligent adaptive applications with smart networking software that can multiplex connections over a wide variety of networking technologies
- Played a leading role in designing and implementing the network and transport protocols used in the project

9/92 – 12/95 InfoPad Project Member, University of California at Berkeley

- Member of the team that designed and implemented the Infopad. Goal of the project was to build a multimedia portable terminal that used wireless networking
- Played a leading role in designing the network software infrastructure, InfoNet. The Infonet architecture provides both wired backbone network connectivity and remote computation support for the mobile host

9/89 – 1/93 RAID-II disk array project, University of California at Berkeley

- Member of the team that developed hardware and software for RAID-II. Goal of the project was to build a scalable high-bandwidth network-based storage server.
- Primary architect of the network software for the RAID-II system. Responsible for protocol stack, device drivers and firmware to provide connectivity to HiPPI switch networks and UltraNet networks

I. PUBLICATION LIST

CHAPTERS IN BOOKS

1. H. Balakrishnan, V. N. Padmanabhan, S. Seshan, and R. Katz. "A Comparison of Mechanisms for Improving TCP Performance over Wireless Links," Chapter 10.4, pages 401-419 in **Mobility: Processes, Computers, and Agents**. Addison-Wesley, February 1999.

REFEREED JOURNAL PAPERS - PUBLISHED

2. A. Akella, G. Judd, S. Seshan and P. Steenkiste. "Self Management in Chaotic Wireless Deployments," *Wireless Networks (WINET) Journal, Special Issue on Selected Papers from MobiCom 2005*. To appear
3. A. Akella, S. Chawla, A. Kannan and S. Seshan. "On the Scaling of Congestion in the Internet Graph," *ACM SIGCOMM Computer Communication Review, Special Issue on Science of Network Design*, Volume 34, Number 3, pages 43-55, July 2004.
4. Y. Chu, S. Rao, S. Seshan and H. Zhang. "A Case for End-System Multicast", *IEEE Journal on Selected Areas in Communications special issue on Network Support for Multicast Communications*, Volume 20, Number 8, October 2002.
5. H. Balakrishnan, V. Padmanabhan, S. Seshan and R. Katz. "A Comparison of Mechanisms for Improving TCP Performance over Wireless Links," *IEEE/ACM Transactions on Networking*, December 1997.
6. S. Seshan, H. Balakrishnan and R. Katz. "Handoffs in Cellular Wireless Networks: The Daedalus Implementation and Experience," *Kluwer International Journal on Wireless Personal Communications*, January 1997.
7. H. Balakrishnan, S. Seshan, E. Amir and R. Katz. "Improving Reliable Transport and Handoff Performance in Cellular Wireless Networks," *ACM Wireless Networks*, December 1995.
8. P. Chen, E. Lee, A. Drapeau, K. Lutz, E. Miller, S. Seshan, K. Shirriff, D. Patterson and R. Katz. "Performance and Design Evaluation of the RAID-II Storage Server," *Journal of Distributed and Parallel Databases*, July 1994.

REFEREED JOURNAL PAPERS - SUBMITTED

9. S. Nath, P. Gibbons, S. Seshan, and Z. Anderson. "Synopsis Diffusion for Robust Aggregation in Sensor Networks," *ACM Transactions on Sensor Networks (TOSN)*.

REFEREED CONFERENCE/WORKSHOP PAPERS

10. D. Raychaudhuri, N. Mandayam, J. Evans, B. Ewy, S. Seshan, P. Steenkiste. "CogNet – An Architectural Foundation for Experimental Cognitive Radio Networks within the Future Internet," *Proceedings of ACM/IEEE MobiArch 2006*, San Francisco, December 2006.
11. M. Agrawal, S. Bailey, A. Greenberg, J. Pastor, P. Sebos, S. Seshan, J. Van der Merwe, J. Yates. "RouterFarm: Towards a Dynamic, Manageable Network Edge," *Proceedings of ACM Sigcomm Workshop on Internet Network Management*, Pisa Italy, September 2006.
12. A. Bharambe, J. Pang and S. Seshan: "A Distributed Architecture for Multiplayer Games," *Proceedings of the Symposium on Networked Systems Design and Implementation (NSDI'06)*, San Jose, CA, May 2006.
13. S. Nath, H. Yu, P. Gibbons and S. Seshan. "Subtleties in Tolerating Correlated Failures," *Proceedings of the Symposium on Networked Systems Design and Implementation (NSDI'06)*, San Jose, CA, May 2006.
14. S. Nath, P. Gibbons and S. Seshan. "Adaptive Data Placement for Wide-Area Sensing Services," *Proceedings of USENIX FAST 2005*,
15. J. Campbell, P. B. Gibbons, S. Nath, P. Pillai, S. Seshan and R. Sukthankar. "IrisNet: A Planetary-Scale Architecture for Multimedia Sensors," *Proceedings of the ACM Multimedia Conference*, Singapore, November 2005.
16. A. Akella, G. Judd, S. Seshan and P. Steenkiste. "Self Management in Chaotic Wireless Deployments," *Proceedings of the ACM MobiCom Conference*, Cologne, Germany, September 2005.
17. S. Rao, A. Bharambe, V. Padmanabhan, S. Seshan and H. Zhang. "The Impact of Heterogeneous Bandwidth Constraints on DHT-Based Multicast Protocols," *Proceedings of the IPTPS Workshop*, Ithaca, NY, February 2005.

18. P. Yalagandula, S. Nath, H. Yu, P. Gibbons and S. Seshan. "Beyond Availability: Towards a Deeper Understanding of Machine Failure Characteristics in Large Distributed Systems," *Proceedings of the First Workshop on Real, Large Distributed Systems (WORLDS)*, San Francisco, CA, December 2004.
19. A. Bharambe, V. Padmanabhan and S. Seshan. "Supporting Spectators in Online Multiplayer Games," *Proceedings of HOTNETS-III*, San Diego, CA, November 2004.
20. S. Nath, P. Gibbons, S. Seshan, and Z. Anderson. "Synopsis Diffusion for Robust Aggregation in Sensor Networks," *Proceedings of the ACM Conference on Embedded Networked Sensor Systems (Sensys)*, Baltimore, MD, November 2004.
21. J. Pang, J. Hendricks, A. Akella, B. Maggs, R. De Prisco and S. Seshan. "Availability, Usage, and Deployment Characteristics of the Domain Name System", *Proceedings of the Internet Measurement Conference (IMC)*, Taormina, Italy, October 2004.
22. J. Pang, A. Akella, A. Shaikh, B. Krishnamurthy and S. Seshan. "On the Responsiveness of DNS-based Network Control," *Proceedings of the Internet Measurement Conference (IMC)*, Taormina, Italy, October 2004.
23. S. Nath, Y. Ke, P. Gibbons, B. Karp and S. Seshan. "A Distributed Filtering Architecture for Multimedia Sensors," *Proceedings of the First Workshop on Broadband Advanced Sensor Networks (BaseNets)*, San Jose, CA, October, 2004. **Best Paper Award.**
24. S. Nath, Z. Anderson and S. Seshan. "Choosing Beacon Periods to Improve Response Times for Wireless HTTP Clients," *Proceedings of the ACM International Workshop on Mobility Management and Wireless Access (MobiWac'04)*, Philadelphia, PA, September, 2004.
25. A. Bharambe, M. Agrawal and S. Seshan. "Mercury: Supporting Scalable Multi-Attribute Range Queries," *Proceedings of the ACM SIGCOMM Conference*, Portland, OR, August 2004.
26. A. Akella, J. Pang, A. Shaikh, B. Maggs and S. Seshan. "A Comparison of Overlay Routing and Multihoming Route Control," *Proceedings of the ACM SIGCOMM Conference*, Portland, OR, August 2004.
27. A. Akella, A. Shaikh and S. Seshan. "Multihoming Performance Benefits: An Experimental Evaluation of Practical Enterprise Strategies," *Proceedings of the USENIX Annual Technical Conference*, Boston, MA, June 2004.
28. P. Gibbons, B. Karp, Y. Ke, S. Nath and S. Seshan. "IrisNet: An Architecture for Internet-Scale Sensing," *In IEEE Pervasive Computing*, volume 2, number 4, October-December 2003.
29. S. Nath, Y. Ke, A. Deshpande, P. Gibbons, B. Karp and S. Seshan. "IrisNet: An Architecture for Internet-scale Sensing Services," *Demo and Short Paper in the First ACM Conference on Embedded Networked Sensor Systems (SenSys)*, Los Angeles, CA, November 2003.
30. A. Akella, H. Balakrishnan and S. Seshan. "The Impact of False Sharing on Shared Congestion Management," *Proceedings of the IEEE International Conference on Network Protocols (ICNP)*, Atlanta, GA, November 2003.
31. A. Akella, S. Seshan and A. Shaikh. "An Empirical Evaluation of Wide-Area Internet Bottlenecks," *Proceedings of the Internet Measurement Conference (IMC) Conference*, Miami, FL, October 2003.
32. S. Nath, P. Gibbons, B. Karp and S. Seshan. "Adaptive Data Placement for Wide-Area Sensing Services." *Poster in the 19th ACM SOSP Conference*, Bolton Landing, NY, October 2003.
33. S. Nath, A. Deshpande, Y. Ke, P. Gibbons, B. Karp and S. Seshan. "IrisNet: An Architecture for Internet-scale Sensing Services," *Demo and Short Paper in Proceedings of the VLDB Conference*, Berlin, Germany, September 2003.
34. A. Akella, S. Seshan and A. Shaikh. "Toward Representative Internet Measurements," *Proceedings of the 3rd New York Metro Area Networking Workshop*, New York, NY, September 2003.
35. A. Akella, B. Maggs, S. Seshan, A. Shaikh and R. Sitaraman. "A Measurement-Based Analysis of Multihoming," *Proceedings of the ACM SIGCOMM Conference*, Karlsruhe, Germany, August 2003.
36. A. Akella, S. Chawla, A. Kannan and S. Seshan. "Scaling properties of the Internet Graph", *Proceedings of the ACM Principles of Distributed Computing (PODC) Conference*, Boston, MA, July 2003.
37. A. Deshpande, S. Nath, P. Gibbons and S. Seshan. "Cache-and-Query for Wide Area Sensor Databases," *Proceedings of the ACM SIGMOD Conference*, San Diego, CA, June 2003.
38. A. Deshpande, S. Nath, P. Gibbons and S. Seshan. "IrisNet: Internet-Scale Resource-Intensive Sensor Network Services," *Demo and short paper in the ACM SIGMOD Conference*, San Diego, CA, June 2003.
39. A. Akella, S. Seshan and A. Shaikh. An Empirical Evaluation of Wide-Area Internet Bottlenecks., *Short Paper in Proceedings of the ACM SIGMETRICS Conference*, San Diego, CA, June 2003.

40. A. Akella, A. Bharambe, M. Reiter and S. Seshan. "Detecting DDoS Attacks on ISP Networks," *Proceedings of the SIGMOD Workshop on Management and Processing of Data Streams*, San Diego, CA, June 2003.
41. M. Agrawal, and S. Seshan. "Development Tools for Distributed Applications," *Proceedings of the HOTOS IX Workshop*, Lihue, HI, May 2003.
42. M. Agrawal, A. Manjhi, N. Bansal and S. Seshan. "Improving Web Performance in Broadcast-Unicast Networks," *Proceedings of the IEEE INFOCOM Conference*, San Francisco, CA, March 2003.
43. S.Nath, A. Deshpande, P. Gibbons and S. Seshan. "Mining a World of Smart Sensors," *Short Paper in Mobile Computing and Communications Review (MC2R)*, Volume 7, Issue 1, January 2003.
44. J. Pan, S. Seshan and C. Faloustos. "Fast Correlation-Aware Sampling for Network Data Mining," *Proceedings of the IEEE Globecom Internet Mini-Conference*, Taipei, Taiwan, November 2002.
45. A. Akella, R. Karp, C. Papadimitrou, S. Seshan and S. Shenker. "Selfish Behavior and Stability of the Internet: A Game-Theoretic Analysis of TCP", *Proceedings of the ACM SIGCOMM Conference*, Pittsburgh, PA, August 2002.
46. A. Bharambe, S. Rao and S. Seshan. "Mercury: A Scalable Publish-Subscribe System for Internet Games", *Proceedings of the First Workshop on Network and System Support for Games (NetGames)*, Braunschweig, Germany, April 2002.
47. A. Akella, S. Seshan and H. Balakrishnan. "The Impact of False Sharing on Shared Congestion Management" *Poster and Short Paper in ACM SIGCOMM CCR*, January 2002.
48. A. Akella, R. Balan and S. Seshan. "Protocols for Low Power", *Poster and Short Paper in ACM SIGCOMM CCR*, January 2002.
49. Y. Chu, S. Rao, S. Seshan and H. Zhang, "Enabling Conferencing Applications on the Internet using an Overlay Multicast Architecture", *Proceedings of the ACM SIGCOMM Conference*, San Diego, CA, August 2001.
50. E. Nahum, M. Rosu, S. Seshan and J. Almeida. "The Effects of Wide-Area Conditions on WWW Server Performance" *Proceedings of the ACM SIGMETRICS Conference*, Cambridge, MA, June 2001.
51. B. Raman, P. Bhagwat and S. Seshan. "Arguments for Cross-Layer Optimizations in Bluetooth Scatternets," *Proceedings of the Symposium on Applications and the Internet (SAINT)*, January 2001.
52. D. Andersen, D. Bansal, D. Curtis, S. Seshan and H. Balakrishnan. "System Support for Bandwidth Management and Content Adaptation in Internet Applications," *Proceedings of the USENIX OSDI Conference*, San Diego, CA, October 2000.
53. J. Lilley, J. Yang, H. Balakrishnan and S. Seshan. "A Unified Header Compression Framework for Low-Bandwidth Links," *Proceedings of the ACM MOBICOM Conference*, Boston, MA, August 2000. **Best Student Paper Award**.
54. S. Seshan, M. Stemm and R. Katz. "A Network Measurement Architecture for Adaptive Applications," *Proceedings of the IEEE INFOCOM Conference*, Tel Aviv, Israel, March 2000.
55. H. Balakrishnan, H. Rahul and S. Seshan. "An Integrated Congestion Management Architecture for Internet Hosts," *Proceedings of the ACM SIGCOMM Conference*, Cambridge, MA, September 1999.
56. H. Balakrishnan, S. Seshan, P. Bhagwat and F. Kaashoek. "Self-Organizing Collaborative Environments," *Proceedings of the NSF/DARPA/NIST Workshop on Smart Environments*, Atlanta, GA, July 1999.
57. H. Balakrishnan, H. Rahul and S. Seshan. "An End-System Architecture for Unified Congestion," *Proceedings of the HotOS VII Workshop*, Rio Rico, AZ, March 1999.
58. S. Seshan, M. Stemm and R. Katz. "Benefits of Transparent Content Negotiation in HTTP," *Proceedings of the IEEE Globecom Internet Mini-Conference*, Sydney, Australia, November 1998.
59. E. Brewer, R. Katz, E. Amir, H. Balakrishnan, Y. Chawathe, A. Fox, S. Gribble, T. Henderson, G. Nguyen, V. Padmanabhan, S. Seshan and M. Stemm. "A Network Architecture for Heterogeneous Mobile Computing," *IEEE Personal Communications Magazine*, October 1998.
60. H. Balakrishnan, V. Padmanabhan, S. Seshan, M. Stemm and R. Katz. "TCP Behavior of a Busy Internet Server: Analysis and Improvements," *Proceedings of the IEEE INFOCOM Conference*, San Francisco, CA, March 1998.
61. S. Seshan, M. Stemm and R. Katz. "SPAND: Shared Passive Network Performance Discovery," *Proceedings of the Usenix Symposium on Internet Technologies and Systems (USITS)* Monterey, CA, December 1997.
62. H. Balakrishnan, V. Padmanabhan, S. Seshan, M. Stemm, E. Amir and R. Katz. "TCP Improvements for Heterogeneous Networks: The Daedalus Approach," *Proceedings of the 35th Annual Allerton Conference on Communication, Control, and Computing*, Urbana, IL, October 1997.

63. H. Balakrishnan, S. Seshan, M. Stemm and R. Katz. "Analyzing Stability in Wide-Area Network Performance," *Proceedings of the ACM SIGMETRICS Conference*, Seattle, WA, June 1997.
64. H. Balakrishnan, V. Padmanabhan, S. Seshan and R. Katz. "A Comparison of Mechanisms for Improving TCP Performance over Wireless Links," *Proceedings of the ACM SIGCOMM Conference*, Stanford, CA, August 1996.
65. S. Narayanaswamy, S. Seshan et. al. "Application and Network Support for InfoPad," *IEEE Personal Communications Magazine*, April 1996.
66. H. Balakrishnan, S. Seshan, E. Amir and R. Katz. "Improving TCP/IP Performance in Wireless Networks," *Proceedings of the ACM MOBICOM Conference*, Berkeley, CA, November 1995. **Best Student Paper Award.**
67. E. Amir, H. Balakrishnan, S. Seshan and R. Katz. "Efficient TCP over Networks with Wireless Links," *Proceedings of the HotOS-V Workshop*, Orcas Island, WA, May 1995.
68. M. Le, F. Burghardt, S. Seshan and J. Rabaey. "InfoNet: the Networking Infrastructure of InfoPad," *Proceedings of the Compton Conference*, San Francisco, CA, March 1995.
69. S. Seshan, M. Le, F. Burghardt and J. Rabaey. "Software Architecture of the Infopad System," *Proceedings of the Mobidata Workshop on Mobile and Wireless Information Systems*, New Brunswick, NJ, November 1994.
70. A. Drapeau, K. Shirriff, J. Hartman, E. Miller, S. Seshan, R. Katz, K. Lutz, D. Patterson, E. Lee, P. Chen and G. Gibson. "RAID-II: A High-Bandwidth Network File Server," *Proceedings of the ISCA Conference*, Chicago, IL, April 1994.
71. B. Mah, S. Seshan, K. Keeton, R. Katz and D. Ferrari. "Providing Network Video Service to Mobile Clients," *Proceedings of the 4th Workshop on Workstation Operating Systems*, Napa, CA, October 1993.
72. S. Seshan and R. Katz. "Interfacing a High Performance Disk Array File Server to a Gigabit LAN," *Proceedings of the 18th Conference on Local Computer Networks*, Minneapolis, MN, September 1993.
73. K. Keeton, B. Mah, S. Seshan, R. Katz and D. Ferrari. "Providing Connection-Oriented Network Services to Mobile Hosts," *Proceedings of the USENIX Symposium on Mobile and Location-Independent Computing*, Cambridge, MA, August 1993.
74. P. Chen, E. Lee, A. Drapeau, K. Lutz, E. Miller, S. Seshan, K. Shirriff, D. Patterson and R. Katz. "Performance and Design Evaluation of the RAID-II Storage Server," *Proceedings of the International Parallel Processing Symposium Workshop on I/O in Parallel Computer Systems*, Newport Beach, CA, April 1993.
75. R. Katz, P. Chen, A. Drapeau, E. Lee, E. Miller, S. Seshan and D. Patterson. "RAID-II: Design and Implementation of a Large Scale Disk Array Controller," *Proceedings of the VLSI System Design Conference*, Seattle, WA, March 1993.

TECHNICAL REPORTS

76. A. Akella and S. Chawla and S. Seshan, "Mechanisms for Internet Routing: A Study", *CMU CS Technical Report CMU-CS-02-163*, Pittsburgh, PA, July 2002.
77. M. Agrawal, A. Manjhi, N. Bansal and S. Seshan, "Improving Web Performance in Broadcast-Unicast Networks," *CMU CS Technical Report CMU-CS-02-159*, Pittsburgh, PA, July 2002
78. A. Akella, S. Seshan, S. Shenker and I. Stoica. "Exploring Congestion Control", *CMU SCS Technical Report Number CMU-CS-02-139*, Pittsburgh, PA, May 2002.
79. A. Akella, S. Seshan and H. Balakrishnan. "The Impact of False Sharing on Shared Congestion Management," *CMU SCS Technical Report Number CMU-CS-01-135*, Pittsburgh, PA, 2001.
80. H. Balakrishnan, V. Padmanabhan, S. Seshan, M. Stemm and R. Katz, "TCP Behavior of a Busy Internet Server: Analysis and Improvements", *Technical Report UCB/CSD-97-966*, University of California, Berkeley, CA, August 1997.
81. S. Seshan. "An Efficient Network Interface for the RAID-II File Server", *UCB Technical Report UCB/CSD 93/769*, Berkeley, CA, June 1993.

OTHER PUBLICATIONS

82. H. Balakrishnan and S. Seshan. "The Congestion Manager," *Internet Engineering Task Force*, RFC 3124, June 2001.

PATENTS AND INVENTION DISCLOSURES

83. D. Schales, S. Seshan and M. Zohar, “Network Data Packet Classification and Demultiplexing”, Patent No. YOR920000185U, April 13, 2000.

SOFTWARE ARTIFACTS

84. IRISNET – Infrastructure for Internet-scale sensor-enriched services
85. MERCURY – Distributed Publish-Subscribe System
86. SPAND – Internet performance predictor software
87. CONGESTION MANAGER – Congestion control software for end-point systems
88. DAEDALUS PROTOCOL STACK – TCP & IP implementation for wireless/mobile hosts

II. EXTERNAL RECOGNITION

CITATIONS AND AWARDS

1. Best Paper Award, IEEE BASENETS, 2004
2. Finmeccanica Chair in Computer Science, 2004
3. IBM Faculty Partnership Award (FPA), 2003
4. IBM Faculty Partnership Award (FPA), 2002
5. NSF CAREER Award, 2001
6. IBM Faculty Partnership Award (FPA), 2001
7. Best Student Paper Award, ACM/IEEE MOBICOM, 2000
8. Best Student Paper Award, ACM/IEEE MOBICOM, 1995
9. University of California Regents Scholar, T.J. Watson Scholar, M/A COM Scholar
10. Represented the U.S.A. at the International Physics Olympiad (Top 5 U.S. students)
11. Member of Tau Beta Pi and Eta Kappa Nu honor societies
12. Selected for EECS Honor's Program at University of California, Berkeley

INVITED TALKS

13. "End-Point Based Routing Strategies for Improving Internet Performance", MIT, May 2005.
14. "Enabling Distributed Multiplayer Games", University of Washington, Seattle, January 2005.
15. "Understanding Wide-Area Internet Bottlenecks", University of Pennsylvania, April 2004.
16. "A Distributed Architecture for Interactive Multiplayer Games", IBM T.J. Watson Research Center, July 2004.
17. "Distributed Systems, Network Protocols & Applications Research Group", IBM T.J. Watson Research Center, June 2003.
18. "IrisNet", University of Washington, Seattle, April 2003.
19. "Making Virtual Worlds Real", IBM T.J. Watson Research Center, June 2002.
20. "Making Virtual Worlds Real", University of California at Los Angeles, June 2002.
21. "Marking Virtual Worlds Real", University of Washington, Seattle, June 2002.
22. "Congestion Manager", 16th IEEE Annual Computer Communications Workshop, Charlottesville, VA, September 2001.
23. "Adventures in Academia", IBM T.J. Watson Research Center, June 2001.
24. "The Future of Internet Applications: Enabling Network-Adaptive Design", Boston University, 2000.
25. "The Future of Internet Applications: Enabling Network-Adaptive Design", Carnegie Mellon University, 2000.
26. "The Future of Internet Applications: Enabling Network-Adaptive Design", Georgia Tech, 2000.
27. "The Future of Internet Applications: Enabling Network-Adaptive Design", University of Michigan, 2000.
28. "The Future of Internet Applications: Enabling Network-Adaptive Design", University of California at San Diego, 2000.
29. "The Future of Internet Applications: Enabling Network-Adaptive Design", Rice University, 2000.
30. "The Future of Internet Applications: Enabling Network-Adaptive Design", University of California at Santa Cruz, 2000.
31. "The Future of Internet Applications: Enabling Network-Adaptive Design", Rutgers, 2000.
32. "The Future of Internet Applications: Enabling Network-Adaptive Design", University of Pennsylvania, 2000.
33. "The Future of Internet Applications: Enabling Network-Adaptive Design", University of Southern California, 2000.
34. "Congestion Manager", 45th IETF, Oslo, Norway, July 1999.
35. "Congestion Manager", 44th IETF, Minneapolis, MN, March 1999.
36. "A Case Against Proxies", Proxy Based Networking vs. End-to-End Networking panel at ACM/IEEE MOBICOM, Dallas, TX, October 1998.
37. "What's wrong with the Web today?" AT&T, Florham Park, NJ, November 1998.
38. "Software Infrastructure of the Infopad System", SUNY Stonybrook, November 1994.

III. PROFESSIONAL ACTIVITIES

JOURNALS

1. *Associate Editor*, ACM/IEEE Transactions on Networking, 2003-2005

CONFERENCE AND WORKSHOP COMMITTEES

2. *Program Committee*, USENIX NSDI, 2008
3. *Program Committee*, ACM SIGCOMM, 2007
4. *Program Committee Co-Chair*, USENIX Annual Technical Conference, 2007
5. *Program Committee*, USENIX NSDI, 2007
6. *Program Committee*, ACM SIGCOMM, 2006
7. *Program Committee*, IPTPS 2006
8. *Program Committee Co-Chair*, Hot Topics in Networks (HotNets), 2005
9. *Program Committee*, USENIX NSDI, 2005
10. *Program Committee*, ACM SIGCOMM, 2004
11. *Program Committee*, Internet Measurement Conference (IMC), 2004
12. *Program Committee*, IPTPS 2004
13. *Program Committee*, ACM/IEEE MOBICOM, 2004
14. *Program Committee*, NOSSDAV 2004
15. *Program Committee*, USENIX Annual Technical Conference, 2004
16. *Program Committee*, International World Wide Web Conference (WWW), 2004
17. *Student Poster Committee*, ACM SOSP 2004
18. *Program Committee*, IEEE ICNP 2003
19. *Program Committee*, NetGames, 2003
20. *Program Committee*, ACM SIGCOMM, 2003
21. *Program Committee*, ACM SIGMETRICS 2003
22. *Program Committee*, USENIX USITS, 2003
23. *Program Committee*, SPIE/ACM MMCN, 2003
24. *Tutorial Chair and Student Travel Grant Panel*, ACM SIGCOMM, 2002
25. *Program Committee*, Hot Topics in Networks (HotNets), 2002
26. *Program Committee*, Performance, 2002
27. *Program Committee*, Packet Video Workshop, 2002
28. *Program Committee*, ACM/IEEE MOBICOM, 2002
29. *Program Committee*, ACM/IEEE MOBICOM, 2001
30. *Program Committee*, Global Internet Symposium, 2000
31. *Program Committee*, ACM/IEEE MOBICOM, 2000
32. *Program Committee*, Global Internet Symposium, 1999
33. *Program Committee*, ACM/IEEE MOBICOM, 1999
34. *Program Committee*, IEEE WMCSA, 1999
35. *Program Committee*, ACM/IEEE MOBICOM, 1998
36. *Program Committee*, ICDCS, 1997
37. *Program Committee*, ACM/IEEE MOBICOM, 1997

NSF REVIEW PANELS

38. 2006 National Science Foundation CAREER review panel
39. 2005 National Science Foundation NeTS review panel (1)
40. 2005 National Science Foundation NeTS review panel (2)
41. 2001 National Science Foundation ITR review panel
42. 2000 National Science Foundation Middleware review panel
43. 1999 National Science Foundation Networking review panel

CONSULTING

44. Intel Research Pittsburgh

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

45. ACM

IV. TEACHING

COURSES TAUGHT AT CARNEGIE MELLON

- 15-744 Graduate Computer Networks Spring 2001
- 15-441 Undergraduate Computer Networks Fall 2001
- 15-744 Graduate Computer Networks Spring 2002
- 15-441 Undergraduate Computer Networks Fall 2002
- 15-744 Graduate Computer Networks Fall 2002
- 15-829/18-849B/95-811A/19-729A Internet-Scale Sensor Systems: Design and Policy Spring 2003
- 15-441 Undergraduate Computer Networks Spring 2004
- 15-744 Graduate Computer Networks Fall 2004
- 15-441 Undergraduate Computer Networks Spring 2005
- 15-441 Undergraduate Computer Networks Fall 2005
- 15-849 Wireless Networks Spring 2006
- 15-441 Undergraduate Computer Networks Fall 2006
- 15-849 Hot Topics in Networking Spring 2007

COURSES TAUGHT OUTSIDE CARNEGIE MELLON

- *Massachusetts Institute of Technology*: Computer System Engineering - Recitations (6.033) - Spring 1999
- *University of California at Berkeley*: Introduction to Digital Design - Head TA (CS150) - Fall 1992

LECTURE NOTES AND COURSE MATERIALS

- Available at:
 - <http://www.cs.cmu.edu/~srini/15-829A/>
 - <http://www.cs.cmu.edu/~srini/15-849/S06>
 - <http://www.cs.cmu.edu/~srini/15-849/S07>
 - <http://www.cs.cmu.edu/~srini/15-744/S01/>
 - <http://www.cs.cmu.edu/~srini/15-744/S02/>
 - <http://www.cs.cmu.edu/~srini/15-744/F02/>
 - <http://www.cs.cmu.edu/~srini/15-744/F04/>
 - <http://www.cs.cmu.edu/~srini/15-441/F01/>
 - <http://www.cs.cmu.edu/~srini/15-441/F02/>
 - <http://www.cs.cmu.edu/~srini/15-441/S04/>
 - <http://www.cs.cmu.edu/~srini/15-441/S05/>
 - <http://www.cs.cmu.edu/~srini/15-441/F05/>
 - <http://www.cs.cmu.edu/~srini/15-441/S06/>

V. STUDENT ADVISING

PHD STUDENTS

Srinivasa Aditya Akella

- Started: Fall 2000, Finished: Summer 2005
- Thesis: End-Point Based Routing Strategies for Improving Internet Performance
- Employer: University of Wisconsin (starting Fall 2006)

Suman Nath

- Started: Fall 2000, Finished: Summer 2005
- Thesis: Exploiting Redundancy for Robust Sensing
- Employer: Microsoft Research, Redmond (starting Fall 2005)

Mukesh Agrawal

- Started: Fall 2000, Expected completion: Spring 2007
- Thesis: Coping with Change in Distributed Systems

Ashwin Bharambe

- Started: Fall 2001, Expected completion: Spring 2007
- Thesis: Scalable and Secure Architectures for Online Multiplayer Games

Benjamin D. Rister

- Started: Fall 2002

Jeffrey Pang

- Started: Fall 2003

Xi Liu

- Started: Fall 2006

Swapnil Patil

- Started: Fall 2006

MS STUDENTS

Hemant Bhanoo

- Realistic Traffic Generators for Network Simulation, 2002
- Employer: Amazon

Xinyu Zhuang

- Thesis: Group Communication support for Multi-player Games
- Started: Fall 2006, Expected completion: Spring 2007

UNDERGRADUATE SENIOR THESES AND RESEARCH PROJECTS

Yuxiang Liu

- Project Title: Managing and Monitoring Spectrum Usage in a Wireless Network, Spring 2006

Sameer Moidu

- Project Title: Evaluating Dense, Residential Deployments of 802.11, Fall 2004

Zachary R Anderson

- Thesis: Choosing Beacon Period for Improved Response Time for Wireless HTTP Clients, Spring 2004

Arvind Kannan

- Thesis: Scaling Properties of the Internet Graph, Spring 2003

Michael Piatek

- Project Title: The Engage Communications System, Spring 2002

Justin Weisz

- Thesis: Programming Tools for Internet Games, Summer 2002

Aditya Ganjam

- Thesis: Enabling Kernel processing for Web Proxies and Overlay Multicast, Spring 2002

M.S. OR PH.D. THESIS COMMITTEE SERVICE

Glenn Judd

- PhD Thesis Proposal: Using Emulation to Understand and Improve WLAN Performance, 8/2003

Gesly George

- M.S. Thesis: A Flexible MAC Development Environment for Software Radios, 5/2006

Rajesh Balan

- PhD Thesis: Tactics-Based Remote Execution, 5/2006

Rahul Dhar

- M.S. Thesis: Towards an Adaptive MAC Layer: A CSMA/CA Scheme for the GNU Radio Platform, 5/2005

Hal Burch

- PhD Thesis: Measuring the Internet in situ, 3/2005

David Petrou

- PhD Thesis:

An-Cheng Huang

- PhD Thesis: Building Self-configuring Services Using Service-specific Knowledge, 12/2004

Jun Gao

- PhD Thesis: A Distributed and Scalable Peer-to-Peer Content Discovery System Supporting Complex Queries, 10/2004

Yang-hua Chu

- PhD Thesis: Enabling Live Internet Broadcasting using an Application Endpoint Architecture, 10/2004

Kay Sripanidkulchai

- PhD Thesis: Measurement-Driven Design of Peer-to-Peer Content Distribution Systems, 8/2004

Sanjay Rao

- PhD Thesis: Establishing the Viability of End System Multicast using a Systems Approach to Protocol Design, 8/2004

Jorjeta G. Jetcheva

- PhD Thesis: Adaptive Demand-Driven Multicast Routing in Multi-Hop Wireless Ad Hoc Networks, 4/2004

Ariton Xhafa

- PhD Thesis: Analysis of Handover Priority Schemes in Wireless Networks, 10/2003

Dapeng Wu

- PhD Thesis: Providing Quality-of-Service Guarantees in Wireless Networks, 8/2003

Wee-Seng Soh

- PhD Thesis: Mobility Prediction Based Resource Reservation and Restorability Enhancement in Cellular Networks, 8/2003

Yih-Chun Hu

- PhD Thesis: Enabling Secure High-Performance Wireless Ad Hoc Networking, 4/2003

Hen-I Yang

- M.S. Thesis: Service Discovery Systems, 5/2002

Carlos Olquin

- M.S. Thesis: A Service Brokerage Deployment Architecture, 10/2001

Jia-Cheng Hu

- M.S. Thesis: Conference Gateway Supporting Interoperability between SIP and H.323 Clients, 2/2001

Jiann-Min Ho

- M.S. Thesis: Conference Gateway Supporting Interoperability between SIP and H.323 Clients, 2/2001

Prashant Pradhan (SUNY, Stony Brook)

- PhD Title: A Scalable Architecture for High Performance, Safely Extensible Routers, 2000

VI. UNIVERSITY SERVICE

SCHOOL AND DEPARTMENT SERVICE AND COMMITTEE WORK

1. Graduate Admissions, 2007
2. Faculty Hiring Committee, 2002, 2003, 2004, 2007
3. Doctoral Review Committee. 2001-present
4. Dissertation Award Committee, 2000-01, 2001-02
5. Systems Seminar Series, 2001-04