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
Ph.D. Thesis: "Reducing Handoff Latency in Cellular Wireless Data Networks"
M.S. 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

9/00 – present   Faculty, Computer Science Dept., Carnegie Mellon University
- 7/18 – present   Department Head and Joseph F. Traub Professor
- 9/11 – 9/15   Associate Department Head for Graduate Education
- 7/11 – present   Full Professor
- 6/04 – 6/06   Finmeccanica Associate Professor
- 7/03 – 7/11   Associate Professor
- 9/00 – 6/03   Assistant Professor
- Founded **D**istributed systems, **N**etwork protocols & **A**pplications (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

I. EXTERNAL RECOGNITION

- Applied Networking Research Prize (ANRP), 2020
- ACM Fellow, 2019
- Best Paper Award, ACM CoNext, 2017.
- Best Paper Award, ACM CoNext, 2013.
- Best Paper Award, ACM MobiSys, 2008.
- Member of Defense Science Study Group, 2006-2007
- Best Paper Award, IEEE BASENETS, 2004
- Finmeccanica Chair in Computer Science, 2004-2007
- IBM Faculty Partnership Award (FPA), 2003
- IBM Faculty Partnership Award (FPA), 2002
- NSF CAREER Award, 2001
- IBM Faculty Partnership Award (FPA), 2001
- Best Paper Award, ACM/IEEE MobiCom, 2000
- Best Paper Award, ACM/IEEE MobiCom, 1995
- University of California Regents Scholar, T.J. Watson Scholar, M/A COM Scholar
- Represented the U.S.A. at the International Physics Olympiad (Top 5 U.S. students)

II. TEACHING

- 15-744 Graduate Computer Networks (S01, S02, F02, F04, S08, F09, F10, S15, S16, S17, S18)
- 15-441 Undergraduate Computer Networks (F01, F02, S04, S05, F05, F06, F07, S10, F11)
- 15-829/18-849B/95-811A/19-729A Internet-Scale Sensor Systems: Design and Policy (S03)
- 15-849 Wireless Networks (S06)
- 15-849 Hot Topics in Networking (S07, S11)
- 15-446/440 Distributed Systems (S09, S13, S14, F15, F16, F17)
- Computer System Engineering (6.033) - Spring 1999 (*Massachusetts Institute of Technology*)

III. UNIVERSITY SERVICE

- Department Head, 2018-present
- VP Research Search Committee, 2022
- Associate Department Head for Graduate Education, 2011-2015
- CSD Graduate Admissions Chair, 2009
- CSD Graduate Admissions Committee, 2007, 2008
- Faculty Hiring Committee, 2002, 2003, 2004, 2007, 2017
- Doctoral Review Committee. 2001-2008
- Dissertation Award Committee, 2000-01, 2001-02
- Systems Seminar Series, 2001-04

IV. EXTERNAL SERVICE

JOURNALS

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

CONFERENCE AND OTHER LEADERSHIP ROLES

1. Award Selection Committee, ACM Athena Lecturer Award 2023, 2022, 2021
2. Technical Steering Committee, USENIX NSDI, 2018, 2019, 2020, 2021, 2022
3. Program Committee Chair, USENIX NSDI, 2018
4. Technical Steering Committee, ACM SIGCOMM 2014 (chair), 2015, 2016 (chair)
5. Program Committee Chair, ACM SIGCOMM, 2013
6. Program Committee Chair, ACM MobiSys, 2012
7. Program Committee Chair, USENIX Annual Technical Conference, 2007
8. Member of Defense Science Study Group, 2006-2007
9. Program Committee Chair, Hot Topics in Networks (HotNets), 2005
10. Tutorial Chair and Student Travel Grant Panel, ACM SIGCOMM, 2002

CONFERENCE AND WORKSHOP COMMITTEES

11. Program Committee, Hot Topics in Networks (HotNets), 2023, 2022, 2019, 2018, 2014, 2012, 2009, 2002
12. Program Committee, USENIX NSDI, 2023, 2021, 2020, 2018, 2017, 2016, 2015, 2014, 2012, 2010, 2008, 2007, 2005
13. Program Committee, ACM SIGCOMM, 2021, 2019, 2018, 2014, 2013, 2012, 2011, 2010, 2007, 2006, 2004, 2003
14. Program Committee, ACM MobiCom, 2014, 2010, 2008, 2004, 2002, 2001, 2000, 1999, 1998, 1997
15. Program Committee, HotMobile 2013
16. Program Committee, ACM MobiSys, 2012, 2011, 2010
17. Program Committee, ACM SOSP 2009
18. Program Committee, IPTPS 2006, 2004
19. Program Committee, Internet Measurement Conference (IMC), 2004
20. Program Committee, NOSSDAV 2004
21. Program Committee, USENIX Annual Technical Conference, 2007, 2004
22. Program Committee, International World Wide Web Conference (WWW), 2004
23. Student Poster Committee, ACM SOSP 2004
24. Program Committee, IEEE ICNP 2003
25. Program Committee, NetGames, 2003
26. Program Committee, ACM SIGMETRICS 2003
27. Program Committee, USENIX USITS, 2003
28. Program Committee, SPIE/ACM MMCN, 2003
29. Program Committee, Performance, 2002
30. Program Committee, Packet Video Workshop, 2002
31. Program Committee, Global Internet Symposium, 2000, 1999
32. Program Committee, IEEE WMCSA, 1999
33. Program Committee, ICDCS, 1997

V. 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.
2. G. Nychis, S. Seshan, P. Steenkiste. "Supporting Cognitive Radio Network Protocols on Software-defined Radios," Chapter 7 in **Emerging Wireless Technologies and the Future Internet**, 2010.

REFEREED JOURNAL PAPERS

3. *Enhancing Multimedia Accessibility and Availability with Information-Bound References*
   IEEE/ACM Transactions on Networking, April 2016
   A. Anand, A. Balachandran, A. Akella, V. Sekar and S. Seshan
4. *XIA: Architecting a More Trustworthy and Evolvable Internet*
   ACM SIGCOMM Computer Communication Review, July 2014
   D. Naylor, M. K. Mukerjee, P. Agyapong, R. Grandl, R. Kang, M. Machado, S. Brown, C. Doucette, H. Hsiao, D. Han, T. Kim, H. Lim, C. Ovon, D. Zhou, S. Lee, Y. Lin, C. Stuart, D. Barrett, A. Akella, D. Andersen, J. Byers, L. Dabbish, M. Kaminsky, S. Kiesler, J. Peha, A. Perrig, S. Seshan, M. Sirbu, P. Steenkiste
5. *Can user-level probing detect and diagnose common home-WLAN pathologies*
   ACM SIGCOMM Computer Communication Review, January. 2012
   P Kanuparthy, C. Dovrolis, K. Papagiannaki, S. Seshan, and P. Steenkiste
6. IdleChat: enabling high bandwidth real-time applications in residential broadband networks
   ACM SIGMOBILE Mobile Computing and Communications Review. November 2011
   R. Raghavendra, M. Kaminsky, K. Papagiannaki, S. Seshan and E. Belding
7. *Wifi-Reports: Improving Wireless Network Selection with Collaboration*
   IEEE Transactions on Mobile Computing, Special Issue on Selected Papers from MobiSys 2009. Dec, 2010
   J. Pang, B. Greenstein, M. Kaminsky, D. McCoy and S. Seshan
8. *Link-alike: Using Wireless to Share Network Resources in a Neighborhood*
   ACM SIGMOBILE Mobile Computing and Communications Review October 2008
   S. Jakubczak, D. Andersen, M. Kaminsky, K. Papagiannaki and S. Seshan
9. *Synopsis Diffusion for Robust Aggregation in Sensor Networks*
   ACM Transactions on Sensor Networks, March 2008
   S. Nath, P. Gibbons, S. Seshan, Z. Anderson
10. *On the Performance Benefits of Multihoming Route Control*
    IEEE/ACM Transactions on Networking, February 2008
    A. Akella, B. Maggs, S. Seshan, A. Shaikh and R. Sitaraman
11. *Self Management in Chaotic Wireless Deployments*
    Wireless Networks (WINET) Journal, Special Issue on Selected Papers from MobiCom 2005. December 2007
    A. Akella, G. Judd, S. Seshan and P. Steenkiste.
12. *On the Scaling of Congestion in the Internet Graph*
    ACM SIGCOMM Computer Communication Review, Special Issue on Science of Network Design, July 2004.
    A. Akella, S. Chawla, A. Kannan and S. Seshan
13. *IrisNet: An Architecture for a Worldwide Sensor Web*
    IEEE Pervasive Computing, October 2003
    P. B. Gibbons, B. Karp, Y. Ke, S. Nath and S. Seshan
14. *Mining a World of Smart Sensors*
    SIGMOBILE Mobile Computing Communications Review (MC2R), January 2003
    S. Nath, A. Deshpande, P. B. Gibbons and S. Seshan
15. *A Case for End-System Multicast*
    IEEE Journal on Selected Areas in Communications special issue on Network Support for Multicast

Communications, October 2002
Y. Chu, S. Rao, S. Seshan and H. Zhang

16. *A Network Architecture for Heterogeneous Mobile Computing*
IEEE Personal Communications Magazine, October 1998
E. A. Brewer, R. H. Katz, Y. Chawathe, S. D. Gribble, T. Hodes, G. Nguyen, M. Stemm, T. Henderson, E. Amir, H. Balakrishnan, A. Fox, V. N. Padmanabhan and S. Seshan

17. *A Comparison of Mechanisms for Improving TCP Performance over Wireless Links*
IEEE/ACM Transactions on Networking, December 1997.
H. Balakrishnan, V. Padmanabhan, S. Seshan and R. Katz

18. *Handoffs in Cellular Wireless Networks: The Daedalus Implementation and Experience*
Kluwer International Journal on Wireless Personal Communications, January 1997
S. Seshan, H. Balakrishnan and R. Katz

19. *A Low-Power, Lightweight Unit to Provide Ubiquitous Information Access Application and Network Support for InfoPad*
IEEE Personal Communications Magazine, April 1996
S. Narayanaswamy, S. Seshan, E. Amir, E. Brewer, R. W. Brodersen, F. Burghardt, A. Burstein, Y.-C. Chang, A. Fox, J. M. Gilbert, R. Han, R. H. Katz, A. C. Long, D. G. Messerschmitt and J. M. Rabaey

20. *Improving Reliable Transport and Handoff Performance in Cellular Wireless Networks*
ACM Wireless Networks, December 1995
H. Balakrishnan, S. Seshan, E. Amir and R. Katz.

21. *Performance and Design Evaluation of the RAID-II Storage Server*
Journal of Distributed and Parallel Databases, July 1994
P. Chen, E. Lee, A. Drapeau, K. Lutz, E. Miller, S. Seshan, K. Shirriff, D. Patterson and R. Katz

REFEREED CONFERENCE/WORKSHOP PAPERS

22. *RenderFusion: Balancing Local and Remote Rendering for Interactive 3D Scenes*
IEEE International Symposium on Mixed and Augmented Reality (ISMAR), October 2023
E. Lu, S. B. K. Seetharam, M. Dasari, C. Smith, S. Seshan and A. Rowe

23. *Unlocking unallocated cloud capacity for long, uninterruptible workloads*
USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2023
A. Agarwal, S. Noghabi, I. Goiri, S. Seshan and A. Badam

24. *ExoPlane: An Operating System for On-Rack Switch Resource Augmentation*
USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2023
D. Kim, V. Sekar and S. Seshan

25. *Live 3D Scene Capture for Virtual Teleportation*
ACM Conference on Embedded Networked Sensor Systems (SenSys), November 2022
T. Jin, M. Dasari, C. Smith, K. Apicharttrisorn, A. Rowe and S. Seshan

26. *CC-Fuzz: Genetic Algorithm-Based Fuzzing for Stress Testing Congestion Control Algorithms*
Workshop on Hot Topics in Networking (HotNets), November 2022
D. Ray and S. Seshan

27. *Automating Network Heuristic Design and Analysis*
Workshop on Hot Topics in Networking (HotNets), November 2022
A. Agarwal, V. Arun, D. Ray, R. Martins and S. Seshan

28. *Prism: Handling Packet Loss for Ultra-Low Latency Video*
ACM International Conference on Multimedia (ACM Multimedia), October 2022
D. Ray, V. Bobadilla Riquelme and S. Seshan

29. *Time-Division TCP for Reconfigurable Data Center Networks*
ACM SIGCOMM, August 2022
S. S. Chen, W. Wang, C. Canel, S. Seshan, A. C. Snoeren and P. Steenkiste

30. *HeteroSketch: Coordinating Network-wide Monitoring in Heterogeneous and Dynamic Network*s
USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2022
A. Agarwal, Z. Liu and S. Seshan

31. *Redesigning Data Centers for Renewable Energy*
Workshop on Hot Topics in Networking (HotNets), November 2021
A. Agarwal, J. Sun, S. Noghabi, S. Iyengar, A. Badam, R. Chandra, S. Seshan and S. Kalyanaraman

32. *RedPlane: Enabling Fault-Tolerant Stateful in-Switch Applications*
    ACM SIGCOMM, August 2021
    D. Kim, J. Nelson, D. R. K. Ports, V. Sekar and S. Seshan
33. *Sketchy With a Chance of Adoption: Can Sketch-Based Telemetry Be Ready for Prime Time?*
    2021 IEEE 7th International Conference on Network Softwarization (NetSoft), June 2021
    Z. Liu, H. Namkung, A. Agarwal, A. Manousis, P. Steenkiste, S. Seshan and V. Sekar
34. *TEA: Enabling State-Intensive Network Functions on Programmable Switches*
    ACM SIGCOMM, August 2020
    D. Kim, Z. Liu, Y. Zhu, C. Kim, J. Lee, V. Sekar and S. Seshan
35. *Learning Context-Aware Policies from Multiple Smart Homes via Federated Multi-Task Learning*
    2020 IEEE/ACM Fifth International Conference on Internet-of-Things Design and Implementation (IoTDI),
    April 2020
    T. Yu, T. Li, Y. Sun, S. Nanda, V. Smith, V. Sekar and S. Seshan
36. *Adapting TCP for Reconfigurable Datacenter Networks*
    USENIX Symposium on Networked Systems Design and Implementation (NSDI), February 2020
    M. K. Mukerjee, C. Canel, W. Wang, D. Kim, S. Seshan and A. C. Snoeren
37. *UNARI: An Uncertainty-Aware Approach to AS Relationships Inference*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), December 2019
    G. Feng, S. Seshan and P. Steenkiste
38. *Sandpaper: Mitigating Performance Interference in CDN Edge Proxies*
    ACM/IEEE Symposium on Edge Computing, November 2019
    J. Helt, G. Feng, S. Seshan and V. Sekar
39. *Beyond Jain's Fairness Index: Setting the Bar For The Deployment of Congestion Control Algorithms*
    Workshop on Hot Topics in Networking (HotNets), November 2019
    R. Ware, M. K. Mukerjee, S. Seshan and J. Sherry
40. *Modeling BBR's Interactions with Loss-Based Congestion Control*
    ACM Internet Measurement Conference (IMC), October 2019
    R. Ware, M. K. Mukerjee, S. Seshan and J. Sherry
41. *Vantage: Optimizing Video Upload for Time-Shifted Viewing of Social Live Streams*
    ACM SIGCOMM, August 2019
    D. Ray, J. Kosaian, K. V. Rashmi and S. Seshan
42. *FreeFlow: Software-based Virtual RDMA Networking for Containerized Clouds*
    USENIX Symposium on Networked Systems Design and Implementation (NSDI), February 2019
    D. Kim, T. Yu, H. H. Liu, Y. Zhu, J. Padhye, S. Raindel, C. Guo, V. Sekar and S. Seshan
43. *Generic External Memory for Switch Data Planes*
    Workshop on Hot Topics in Networking (HotNets), November 2018
    D. Kim, Y. Zhu, C. Kim, J. Lee and S. Seshan
44. *Hyperloop: Group-Based NIC-Offloading to Accelerate Replicated Transactions in Multi-Tenant Storage*
    Systems
    ACM SIGCOMM, August 2018
    D. Kim, A. Memaripour, A. Badam, Y. Zhu, H. H. Liu, J. Padhye, S. Raindel, S. Swanson, V. Sekar and S.
    Seshan
45. *Redesigning CDN-Broker Interactions for Improved Content Delivery*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), November 2017
    M. K. Mukerjee, I. N. Bozkurt, D. Ray, B. M. Maggs, S. Seshan and H. Zhang
    Best Paper Award
46. *Using Indirect Routing to Recover from Network Traffic Scheduling Estimation Error*
    Symposium on Architectures for Networking and Communications Systems (ANCS), May 2017
    C. Li, M. K. Mukerjee, D. G. Andersen, S. Seshan, M. Kaminsky, G. Porter and A. C. Snoeren
47. *PSI: Precise Security Instrumentation for Enterprise Networks*
    Network and Distributed System Security Symposium (NDSS), February 2017
    T. Yu, S. K. Fayaz, M. Collins, V. Sekar and S. Seshan
48. *The Impact of Brokers on the Future of Content Delivery*
    Workshop on Hot Topics in Networking (HotNets), November 2016
    M. K. Mukerjee, I. N. Bozkurt, B. Maggs, S. Seshan and H. Zhang

49. *Active Sensing Data Collection with Autonomous Mobile Robots*
    IEEE International Conference on Robotics and Automation (ICRA), May 2016
    R. Wang, M. Veloso and S. Seshan
50. *Scheduling Techniques for Hybrid Circuit/Packet Networks*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), December 2015
    H. Liu, M. K. Mukerjee, C. Li, N. Feltman, G. Papen, S. Savage, S. Seshan, G. M. Voelker, D. G. Andersen,
    M. Kaminsky, G. Porter and A. C. Snoeren
51. *Handling a Trillion (Unfixable) Flaws on a Billion Devices: Rethinking Network Security for the Internet-of-Things*
    Workshop on Hot Topics in Networking (HotNets), November 2015
    T. Yu, V. Sekar, S. Seshan, Y. Agarwal and C. Xu
52. *Using Autonomous Robots to Diagnose Wireless Connectivity*
    Workshop on The Path to Success: Failures in rEal Robots (FinE-R)(FINER'15), October 2015
    R. Wang, M. Veloso and S. Seshan
53. *Indoor Trajectory Identification: Snapping with Uncertainty*
    IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'15), September 2015
    R. Wang, R. Shroff, Y. Zha, M. Veloso and S. Seshan
54. *Practical, Real-Time Centralized Control for CDN-Based Live Video Delivery*
    ACM SIGCOMM, August 2015
    M. K. Mukerjee, D. Naylor, J. Jiang, D. Han, S. Seshan and H. Zhang
55. *Wireless Map-Based Handoffs for Mobile Robots*
    IEEE International Conference on Robotics and Automation (ICRA), May 2015
    R. Wang, M. Mukerjee, M. Veloso and S. Seshan
56. *Indoor Trajectory Identification: Snapping with Uncertainty*
    AAAI Conference on Artificial Intelligence, January 2015
    R. Shroff, Y. Zha, R. Wang, M. Veloso and S. Seshan
57. *Modeling Web Quality-of-Experience on Cellular Networks*
    ACM Conference on Mobile Computing and Networking (Mobicom), September 2014
    A. Balachandran, V. Aggarwal, E. Halepovic, J. Pang, S. Seshan, S. Venkataraman and H. Yan
58. *Using Your Smartphone to Detect and Map Heterogeneous Networks and Devices in the Home*
    ACM Workshop on Hot Topics in Wireless, September 2014
    G. Nychis, S. Seshan and P. Steenkiste
59. *Iterative Snapping of Odometry Trajectories for Path Identification*
    RoboCup 2013: Robot World Cup XVII, July 2014
    R. Wang, M. Veloso and S. Seshan
60. *Handling Location Uncertainty in Event Driven Experimentation*
    ACM International Conference on Distributed Event-Based Systems, May 2014
    K. Muralidharan, S. Seshan, N. Ramasubbu and R. K. Balan
61. *O-Snap: Optimal snapping of odometry trajectories for route identification*
    IEEE International Conference on Robotics and Automation (ICRA), May 2014
    R. Wang, M. Veloso and S. Seshan
62. *Centralized, measurement-based, spectrum management for environments with heterogeneous wireless networks*
    2014 IEEE International Symposium on Dynamic Spectrum Access Networks (DYSPAN), April 2014
    G. Nychis, C. Tsourakakis, S. Seshan and P. Steenkiste
63. *Enhancing Video Accessibility and Availability Using Information-Bound References*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), December 2013
    A. Anand, A. Balachandran, A. Akella, V. Sekar and S. Seshan
    Best Paper Award
64. *Understanding Tradeoffs in Incremental Deployment of New Network Architectures*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), December 2013
    M. K. Mukerjee, D. Han, S. Seshan and P. Steenkiste
65. *Analyzing the Potential Benefits of CDN Augmentation Strategies for Internet Video Workloads*
    ACM Internet Measurement Conference (IMC), October 2013
    A. Balachandran, V. Sekar, A. Akella and S. Seshan

66. *Developing a Predictive Model of Quality of Experience for Internet Video*
    ACM SIGCOMM, August 2013
    A. Balachandran, V. Sekar, A. Akella, S. Seshan, I. Stoica and H. Zhang
67. *FCP: A Flexible Transport Framework for Accommodating Diversity*
    ACM SIGCOMM, August 2013
    D. Han, R. Grandl, A. Akella and S. Seshan
68. *Understanding Internet Video Viewing Behavior in the Wild*
    ACM SIGMETRICS, June 2013
    A. Balachandran, V. Sekar, A. Akella and S. Seshan
69. *CAMEO: A Middleware for Mobile Advertisement Delivery*
    ACM Conference on Mobile Systems, Applications, and Services (MobiSys), June 2013
    A. J. Khan, K. Jayarajah, D. Han, A. Misra, R. Balan and S. Seshan
70. *Multi-robot information sharing for complementing limited perception: A case study of moving ball interception*
    IEEE International Conference on Robotics and Automation (ICRA), May 2013
    R. Wang, M. Veloso and S. Seshan
71. *A Quest for an Internet Video Quality-of-Experience Metric*
    Workshop on Hot Topics in Networking (HotNets), October 2012
    A. Balachandran, V. Sekar, A. Akella, S. Seshan, I. Stoica and H. Zhang
72. *CARE: Content Aware Redundancy Elimination for Challenged Networks*
    Workshop on Hot Topics in Networking (HotNets), October 2012
    U. Weinsberg, Q. Li, N. Taft, A. Balachandran, V. Sekar, G. Iannaccone and S. Seshan
73. *Measurement-Driven Performance Analysis of Indoor Femtocellular Networks*
    ACM WiNTECH Workshop, August 2012
    T.-T. Luong, V. Subbaraju, A. Misra and S. Seshan
74. *On-Chip Networks from a Networking Perspective: Congestion and Scalability in Many-Core Interconnects*
    ACM SIGCOMM, August 2012
    G. P. Nychis, C. Fallin, T. Moscibroda, O. Mutlu and S. Seshan
75. *XIA: Efficient Support for Evolvable Internetworking*
    USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2012
    D. Han, A. Anand, F. Dogar, B. Li, H. Lim, M. Machado, A. Mukundan, W. Wu, A. Akella, D. G. Andersen, J. W. Byers, S. Seshan and P. Steenkiste
76. *RPT: Re-architecting Loss Protection for Content-Aware Networks*
    USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2012
    D. Han, A. Anand, A. Akella and S. Seshan
77. *Mitigating the True Cost of Advertisement-Supported 'Free' Mobile Applications*
    Workshop on Mobile Computing Systems & Applications (HotMobile), February 2012
    A. J. Khan, V. Subbaraju, A. Misra and S. Seshan
78. *XIA: An Architecture for an Evolvable and Trustworthy Internet*
    Workshop on Hot Topics in Networking (HotNets), November 2011
    A. Anand, F. Dogar, D. Han, B. Li, H. Lim, M. Machado, W. Wu, A. Akella, D. G. Andersen, J. W. Byers, S. Seshan and P. Steenkiste
79. *Predicting Handoffs in 3G Networks*
    ACM SOSP Workshop on Networking, Systems, and Applications on Mobile Handhelds, October 2011
    U. Javed, D. Han, R. Caceres, J. Pang, S. Seshan and A. Varshavsky
80. *When Are Directional Antennas Useful in Indoor Environments*
    ACM WiNTECH Workshop, September 2011
    X. Liu, S. Seshan and P. Steenkiste
81. *Clearing the RF Smog: Making 802.11n Robust to Cross-Technology Interference*
    ACM SIGCOMM, August 2011
    S. Gollakota, F. Adib, D. Katabi and S. Seshan
82. *Understanding 802.11 Performance in Heterogeneous Environments*
    ACM SIGCOMM Workshop on Home Networks, August 2011
    K. Lakshminarayanan, S. Seshan and P. Steenkiste

83. *The Hare and the Tortoise: Taming Wireless Losses by Exploiting Wired Reliability*
    ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), May 2011
    A. Badam, M. Kaminsky, D. Han, K. Papagiannaki, D. G. Andersen and S. Seshan
84. *Hulu in the neighborhood*
    International Conference on COMmunication Systems and NETworkS (COMSNETS), January 2011
    D. Han, D. Andersen, M. Kaminsky, D. Papagiannaki and S. Seshan
85. *A Case for Information-Bound Referencing*
    Workshop on Hot Topics in Networking (HotNets), October 2010
    A. Anand, A. Akella, V. Sekar and S. Seshan
86. *Pushing the Envelope of Indoor Wireless Spatial Reuse Using Directional Access Points and Clients*
    ACM Conference on Mobile Computing and Networking (Mobicom), September 2010
    X. Liu, A. Sheth, M. Kaminsky, K. Papagiannaki, S. Seshan and P. Steenkiste
87. *Flexible Multimedia Content Retrieval Using InfoNames*
    ACM SIGCOMM, August 2010
    A. Kumar, A. Anand, A. Akella, A. Balachandran, V. Sekar and S. Seshan
88. *RFDump: An Architecture for Monitoring the Wireless Ether*
    ACM Conference on Emerging Networking EXperiments and Technologies (CoNEXT), December 2009
    K. Lakshminarayanan, S. Sapra, S. Seshan and P. Steenkiste
89. *DIRC: Increasing Indoor Wireless Capacity Using Directional Antennas*
    ACM SIGCOMM, August 2009
    X. Liu, A. Sheth, M. Kaminsky, K. Papagiannaki, S. Seshan and P. Steenkiste
90. *Wifi-Reports: Improving Wireless Network Selection with Collaboration*
    ACM Conference on Mobile Systems, Applications, and Services (MobiSys), June 2009
    J. Pang, B. Greenstein, M. Kaminsky, D. McCoy and S. Seshan
91. *Geo-fencing: Confining Wi-Fi Coverage to Physical Boundaries*
    International Conference on Pervasive Computing, May 2009
    A. Sheth, S. Seshan and D. Wetherall
92. *Access Point Localization Using Local Signal Strength Gradient*
    Passive and Active Measurement Conference (PAM), April 2009
    D. Han, D. G. Andersen, M. Kaminsky, K. Papagiannaki and S. Seshan
93. *Enabling MAC Protocol Implementations on Software-defined Radios*
    USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2009
    G. Nychis, T. Hottelier, Z. Yang, S. Seshan and P. Steenkiste
94. *Metronome: Coordinating spectrum sharing in heterogeneous wireless networks*
    International Conference on COMmunication Systems and NETworkS (COMSNETS), January 2009
    R. Gummadi, H. Balakrishnan and S. Seshan
95. *Mark-and-Sweep: Getting the 'inside' Scoop on Neighborhood Networks*
    ACM Internet Measurement Conference (IMC), October 2008
    D. Han, A. Agarwala, D. G. Andersen, M. Kaminsky, K. Papagiannaki and S. Seshan
96. *Packet Caches on Routers: The Implications of Universal Redundant Traffic Elimination*
    ACM SIGCOMM, August 2008
    A. Anand, A. Gupta, A. Akella, S. Seshan and S. Shenker
97. *Donnybrook: Enabling Large-Scale, High-Speed, Peer-to-Peer Games*
    ACM SIGCOMM, August 2008
    A. Bharambe, J. R. Douceur, J. R. Lorch, T. Moscibroda, J. Pang, S. Seshan and X. Zhuang
98. *Improving Wireless Privacy with an Identifier-Free Link Layer Protocol*
    ACM Conference on Mobile Systems, Applications, and Services (MobiSys), June 2008
    B. Greenstein, D. McCoy, J. Pang, T. Kohno, S. Seshan and D. Wetherall
    Best Student Paper Award
99. *Measurement and Analysis of TCP Throughput Collapse in Cluster-Based Storage Systems*
    USENIX Conference on File and Storage Technologies (FAST), February 2008
    A. Phanishayee, E. Krevat, V. Vasudevan, D. G. Andersen, G. R. Ganger, G. A. Gibson and S. Seshan
100. *On Application-Level Approaches to Avoiding TCP Throughput Collapse in Cluster-Based Storage Systems*
    Workshop on Petascale Data Storage: Held in Conjunction with Supercomputing '07, November 2007
    E. Krevat, V. Vasudevan, A. Phanishayee, D. G. Andersen, G. R. Ganger, G. A. Gibson and S. Seshan

101. *Tryst: The Case for Confidential Service Discovery*
     Workshop on Hot Topics in Networking (HotNets), November 2007
     J. Pang, B. Greenstein, D. McCoy, S. Seshan and D. Wetherall
102. *802.11 User Fingerprinting*
     ACM Conference on Mobile Computing and Networking (Mobicom), September 2007
     J. Pang, B. Greenstein, R. Gummadi, S. Seshan and D. Wetherall
103. *Interference-Aware Transmission Power Control for Dense Wireless Networks*
     Annual Conference of ITA, September 2007
     S. Seshan, X. Liu and P. Steenkiste
104. *Understanding and Mitigating the Impact of RF Interference on 802.11 Networks*
     ACM SIGCOMM, August 2007
     R. Gummadi, D. Wetherall, B. Greenstein and S. Seshan
105. *Defragmenting DHT-based Distributed File Systems*
     27th International Conference on Distributed Computing Systems (ICDCS '07), June 2007
     J. Pang, P. B. Gibbons, M. Kaminsky, S. Seshan and H. Yu
106. *Can Ferris Bueller Still Have His Day Off? Protecting Privacy in an Era of Wireless Devices*
     Workshop on Hot Topics in Operating Systems (HotOS), May 2007
     B. Greenstein, R. Gummadi, J. Pang, M. Chen, T. Kohno, S. Seshan and D. Wetherall
107. *CogNet: An Architectural Foundation for Experimental Cognitive Radio Networks within the Future Internet*
     ACM/IEEE International Workshop on Mobility in the Evolving Internet Architecture (MobiArch),
     December 2006
     D. Raychaudhuri, N. B. Mandayam, J. B. Evans, B. J. Ewy, S. Seshan and P. Steenkiste
108. *RouterFarm: Towards a Dynamic, Manageable Network Edge*
     SIGCOMM Workshop on Internet Network Management, September 2006
     M. Agrawal, S. R. Bailey, A. Greenberg, J. Pastor, P. Sebos, S. Seshan, K. Merwe and J. Yates
109. *Colyseus: A Distributed Architecture for Online Multiplayer Games*
     USENIX Symposium on Networked Systems Design and Implementation (NSDI), May 2006
     A. Bharambe, J. Pang and S. Seshan
110. *Subtleties in Tolerating Correlated Failures*
     USENIX Symposium on Networked Systems Design and Implementation (NSDI), May 2006
     S. Nath, H. Yu, P. B. Gibbons and S. Seshan
111. *Adaptive Data Placement for Wide-Area Sensing Services*
     USENIX Conference on File and Storage Technologies (FAST), December 2005
     S. Nath, P. B. Gibbons and S. Seshan
112. *Claytronics: Highly Scalable Communications, Sensing, and Actuation Networks*
     ACM Conference on Embedded Networked Sensor Systems (SenSys), November 2005
     B. Aksak, P. S. Bhat, J. Campbell, M. DeRosa, S. Funiak, P. B. Gibbons, S. C. Goldstein, C. Guestrin, A.
     Gupta, C. Helfrich, J. Hoburg, B. Kirby, J. Kuffner, P. Lee, T. C. Mowry, P. S. Pillai, R. Ravichandran, B. D.
     Rister, S. Seshan, M. Sitti and H. Yu
113. *IrisNet: An Internet-Scale Architecture for Multimedia Sensors*
     ACM International Conference on Multimedia (ACM Multimedia), November 2005
     J. Campbell, P. B. Gibbons, S. Nath, P. Pillai, S. Seshan and R. Sukthankar
114. *Self-Management in Chaotic Wireless Deployments*
     ACM Conference on Mobile Computing and Networking (Mobicom), September 2005
     A. Akella, G. Judd, S. Seshan and P. Steenkiste
115. *The Impact of Heterogeneous Bandwidth Constraints on DHT-Based Multicast Protocols*
     IPTPS 2005: Peer-to-Peer Systems IV, February 2005
     A. Bharambe, S. G. Rao, V. N. Padmanabhan, S. Seshan and H. Zhang
116. *Beyond Availability: Towards a Deeper Understanding of Machine Failure Characteristics in Large*
     Distributed Systems
     Workshop on Real, Large Distributed Systems (WORLDS), December 2004
     P. Yalagandula, S. Nath, H. Yu, P. B. Gibbons and S. Seshan
117. *Supporting Spectators in Online Multiplayer Games*
     Workshop on Hot Topics in Networking (HotNets), November 2004
     A. Bharambe, V. Padmanabhan and S. Seshan

118. *Synopsis Diffusion for Robust Aggregation in Sensor Networks*
     ACM Conference on Embedded Networked Sensor Systems (SenSys), November 2004
     S. Nath, P. B. Gibbons, S. Seshan and Z. Anderson
119. *A Distributed Filtering Architecture for Multimedia Sensors*
     First Workshop on Broadband Advanced Sensor Networks (BaseNets), October 2004
     S. Nath, Y. Ke, P. B. Gibbons, B. Karp and S. Seshan
     Best Student Paper Award
120. *Availability, Usage, and Deployment Characteristics of the Domain Name System*
     ACM Internet Measurement Conference (IMC), October 2004
     J. Pang, J. Hendricks, A. Akella, R. De Prisco, B. Maggs and S. Seshan
121. *On the Responsiveness of DNS-Based Network Control*
     ACM Internet Measurement Conference (IMC), October 2004
     J. Pang, A. Akella, A. Shaikh, B. Krishnamurthy and S. Seshan
122. *Choosing Beacon Periods to Improve Response Times for Wireless HTTP Clients*
     Workshop on Mobility Management & Wireless Access Protocols (Mobiwac), September 2004
     S. Nath, Z. Anderson and S. Seshan
123. *A Comparison of Overlay Routing and Multihoming Route Control*
     ACM SIGCOMM, August 2004
     A. Akella, J. Pang, B. Maggs, S. Seshan and A. Shaikh
124. *Mercury: Supporting Scalable Multi-Attribute Range Queries*
     ACM SIGCOMM, August 2004
     A. Bharambe, M. Agrawal and S. Seshan
125. *Multihoming Performance Benefits: An Experimental Evaluation of Practical Enterprise Strategies*
     USENIX Annual Technical Conference (ATC), June 2004
     A. Akella, A. Shaikh and S. Seshan
126. *The Impact of False Sharing on Shared Congestion Management*
     11th IEEE International Conference on Network Protocols, November 2003
     A. Akella, S. Seshan and H. Balakrishnan
127. *IrisNet: An Architecture for Internet-scale Sensing Services*
     ACM Conference on Embedded Networked Sensor Systems (SenSys), November 2003
     S. Nath, Y. Ke, A. Deshpande, P. B. Gibbons, B. Karp and S. Seshan
128. *An Empirical Evaluation of Wide-Area Internet Bottlenecks*
     ACM Internet Measurement Conference (IMC), October 2003
     A. Akella, S. Seshan and A. Shaikh
129. *Adaptive Data Placement for Wide-Area Sensing Services*
     Poster in the 19th ACM SOSP Conference, October 2003
     S. Nath, P. B. Gibbons, B. Karp and S. Seshan
130. *Toward Representative Internet Measurements*
     New York Metro Area Networking Workshop, September 2003
     A. Akella, S. Seshan and A. Shaikh
131. *IrisNet: An Architecture for Internet-Scale Sensing Services*
     International Conference on Very Large Data Bases, September 2003
     S. Nath, A. Deshpande, Y. Ke, P. B. Gibbons, B. Karp and S. Seshan
132. *A Measurement-Based Analysis of Multihoming*
     ACM SIGCOMM, August 2003
     A. Akella, B. Maggs, S. Seshan, A. Shaikh and R. Sitaraman
133. *Scaling Properties of the Internet Graph*
     Symposium on Principles of Distributed Computing (PODC), July 2003
     A. Akella, S. Chawla, A. Kannan and S. Seshan
134. *Detecting DDoS Attacks on ISP Networks*
     ACM SIGMOD/PODS Workshop on Management and Processing of Data Streams (MPDS) FCRC 2003,
     June 2003
     A. Akella, A. Bharambe, M. Reiter and S. Seshan
135. *Cache-and-Query for Wide Area Sensor Databases*
     ACM SIGMOD International Conference on Management of Data (SIGMOD), June 2003
     A. Deshpande, S. Nath, P. B. Gibbons and S. Seshan

136. *IrisNet: Internet-Scale Resource-Intensive Sensor Services*
     ACM SIGMOD International Conference on Management of Data (SIGMOD), June 2003
     A. Deshpande, S. Nath, P. B. Gibbons and S. Seshan
137. *An Empirical Evaluation of Wide-Area Internet Bottlenecks*
     ACM SIGMETRICS, June 2003
     A. Akella, S. Seshan and A. Shaikh
138. *Development Tools for Distributed Applications*
     Workshop on Hot Topics in Operating Systems (HotOS), May 2003
     M. Agrawal and S. Seshan
139. *Improving Web Performance in Broadcast-Unicast Networks*
     IEEE INFOCOM, April 2003
     M. Agrawal, A. Manjhi, N. Bansal and S. Seshan
140. *Fast Correlation-Aware Sampling for Network Data Mining*
     Global Telecommunications Conference, 2002. GLOBECOM '02. IEEE, November 2002
     J.-Y. Pan, S.Seshan and C. Faloutsos
141. *Selfish Behavior and Stability of the Internet: A Game-Theoretic Analysis of TCP*
     ACM SIGCOMM, August 2002
     A. Akella, S. Seshan, R. Karp, S. Shenker and C. Papadimitriou
142. *Mercury: A Scalable Publish-Subscribe System for Internet Games*
     Workshop on Network and System Support for Games, April 2002
     A. Bharambe, S. Rao and S. Seshan
143. *Protocols for Low Power*
     Poster and Short Paper in ACM Sigcomm CCR, January 2002
     A. Akella, R. Balan and S. Seshan
144. *Enabling Conferencing Applications on the Internet Using an Overlay Muilticast Architecture*
     ACM SIGCOMM, August 2001
     Y. Chu, S. Rao, S. Seshan and H. Zhang
145. *The Effects of Wide-Area Conditions on WWW Server Performance*
     ACM SIGMETRICS, June 2001
     E. M. Nahum, M.-C. Rosu, S. Seshan and J. Almeida
146. *Arguments for Cross-Layer Optimizations in Bluetooth Scatternets*
     2001 Symposium on Applications and the Internet (SAINT'01), January 2001
     B. Raman, P. Bhagwat and S. Seshan
147. *System Support for Bandwidth Management and Content Adaptation in Internet Applications*
     USENIX Symposium on Operating Systems Design and Implemnetation (OSDI), October 2000
     D. Andersen, D. Bansal, D. Curtis, S. Seshan and H. Balakrishnan
148. *A Unified Header Compression Framework for Low-Bandwidth Links*
     ACM Conference on Mobile Computing and Networking (Mobicom), August 2000
     J. Lilley, J. Yang, H. Balakrishnan and S. Seshan
     Best Student Paper Award
149. *A network measurement architecture for adaptive applications*
     IEEE INFOCOM, March 2000
     M. Stemm, R. H. Katz and S. Seshan
150. *An Integrated Congestion Management Architecture for Internet Hosts*
     ACM SIGCOMM, August 1999
     H. Balakrishnan, H. S. Rahul and S. Seshan
151. *Self-Organizing Collaborative Environments*
     NSF/DARPA/NIST Workshop on Smart Environments, July 1999
     H. Balakrishnan, S. Seshan, P. Bhagwat and F. Kaashoek
152. *An end-system architecture for unified congestion management*
     Workshop on Hot Topics in Operating Systems (HotOS), March 1999
     H. S. Rahul, H. Balakrishnan and S. Seshan
153. *Benefits of Transparent Content Negotiation in HTTP*
     IEEE Globcom 98 Internet Mini-Conference, November 1998
     S. Seshan, M. Stemm and R. H. Katz

154. *TCP behavior of a busy Internet server: analysis and improvements*
     IEEE INFOCOM, March 1998
     H. Balakrishnan, V. N. Padmanabhan, S. Seshan, M. Stemm and R. H. Katz
155. *SPAND: Shared Passive Network Performance Discovery*
     USENIX Symposium on Internet Technologies and Systems (USITS 97), December 1997
     S. Seshan, M. Stemm and R. H. Katz
156. *TCP Improvements for Heterogeneous Networks: The Daedalus Approach*
     Allerton Conference on Communication, Control, October 1997
     H. Balakrishnan, V. N. Padmanabhan, S. Seshan, M. Stemm, E. Amir and R. H. Katz
157. *Analyzing Stability in Wide-Area Network Performance*
     ACM SIGMETRICS, June 1997
     H. Balakrishnan, M. Stemm, S. Seshan and R. H. Katz
158. *A Comparison of Mechanisms for Improving TCP Performance over Wireless Links*
     ACM SIGCOMM, August 1996
     H. Balakrishnan, V. N. Padmanabhan, S. Seshan and R. H. Katz
159. *Improving TCP/IP Performance over Wireless Networks*
     ACM Conference on Mobile Computing and Networking (Mobicom), November 1995
     H. Balakrishnan, S. Seshan, E. Amir and R. H. Katz
     Best Student Paper Award
160. *Efficient TCP over networks with wireless links*
     Workshop on Hot Topics in Operating Systems (HotOS), May 1995
     E. Amir, H. Balakrishnan, S. Seshan and R. H. Katz
161. *InfoNet: The networking infrastructure of InfoPad*
     Digest of Papers. COMPCON'95. Technologies for the Information Superhighway, March 1995
     M. T. Le, F. Burghardt, S. Seshan and J. M. Rabaey
162. *Software Architecture of the InfoPad System*
     Mobidata Workshop, November 1994
     S. Seshan, M. T. Le, F. L. Burghardt and J. M. Rabaey
163. *RAID-II: A High-Bandwidth Network File Server*
     International Symposium on Computer Architecture (ISCA), April 1994
     A. L. Drapeau, K. Shirriff, J. Hartman, E. L. Miller, S. Seshan, R. H. Katz, K. Lutz, D. A. Patterson, E. K.
     Lee, P. M. Chen and G. A. Gibson
164. *Providing Network Video Service to Mobile Clients*
     Workshop on Workstation Operating Systems, October 1993
     B. A. Mah, S. Seshan, K. Keeton, D. Ferrari and R. H. Katz
165. *Interfacing a high performance disk array file server to a gigabit LAN*
     1993 18th Conference on Local Computer Networks, September 1993
     S. Seshan and R. H. Katz
166. *Providing Connection-Oriented Network Services to Mobile Hosts*
     USENIX Mobile & Location-Independent Computing Symposium, August 1993
     K. Keeton, B. Mah, Srinivasan. Seshan, R. H. Katz and D. Ferrari
167. *Performance and Design Evaluation of the RAID-II Storage Server*
     International Parallel Processing Symposium Workshop on I/O in Parallel Computer Systems, April 1993
     P. M. Chen, E. K. Lee, A. L. Drapeau, K. Lutz, E. L. Miller, S. Seshan, K. Shirriff, D. A. Patterson and R. H.
     Katz
168. *RAID-II: Design and Implementation of a Large Scale Disk Array Controller*
     VLSI System Design Conference, March 1993
     R. H. Katz, P. M. Chen, E. K. Lee, A. L. Drapeau, K. Lutz, E. L. Miller, S. Seshan and D. A. Patterson

TECHNICAL REPORTS

169. *Multi-Modal Network Protocols: Adapting to Highly Variable Operating Conditions*
     CMU Technical Report CMU-CS-02-170, Pittsburgh, PA, July 2002
     A. Akella, A. Bharambe, S. Nath and S. Seshan

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

OTHER PUBLICATIONS

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

PATENTS AND INVENTION DISCLOSURES

177. S. Gollakota, F. Adib, D. Katabi, and S. Seshan. "Cross Technology Interference Cancellation". US 8,983,011, July 31, 2012
178. A. Anand, A. Akella and S. Seshan. "Network Routing System Providing Increased Network Bandwidth". US Patent 9,438,504, June 8, 2009.
179. D. Schales, S. Seshan and M. Zohar, "Network Data Packet Classification and Demultiplexing", Patent US7,200,684, April 13, 2000.

SOFTWARE ARTIFACTS

180. XIA (eXpressive Internet Architecture) – next-generation network architecture.
181. COLYSEUS – distributed architecture for multiplayer games and distributed versions of Quake II and Quake III
182. DONNYBROOK – peer-to-peer architecture for FPS games such as Quake III
183. SLYFI – Linux implementation of SlyFi, an identifier-free wireless link layer similar to 802.11.
184. IRISNET – Infrastructure for Internet-scale sensor-enriched services
185. MERCURY – Distributed Publish-Subscribe System
186. SPAND – Internet performance predictor software
187. CONGESTION MANAGER – Congestion control software for end-point systems
188. DAEDALUS PROTOCOL STACK – TCP & IP implementation for wireless/mobile hosts

VI. STUDENT ADVISING

POSTDOCS

Mallesham Dasari
- Thesis: End-Point Based Routing Strategies for Improving Internet Performance
- Employer: Northeastern University

Raja Sambasivan
- Thesis: End-Point Based Routing Strategies for Improving Internet Performance
- Employer: Tufts University

Chenren Xu
- Thesis: End-Point Based Routing Strategies for Improving Internet Performance
- Employer: Peking University

CURRENT PHD STUDENTS

Ranysha Ware
Christopher Canel
Anup Agarwal
Sagar Bharadwaj
Shuoshuo (Shawn) Chen

PAST PHD STUDENTS

Srinivasa Aditya Akella
- Thesis: End-Point Based Routing Strategies for Improving Internet Performance
- Employer: University of Texas, Austin

Suman Nath
- Thesis: Exploiting Redundancy for Robust Sensing
- Employer: Microsoft Research, Redmond

Jeffrey Pang
- Thesis: Quantifying and Mitigating Privacy Threats in Wireless Protocols and Services
- Employer: Databricks

Mukesh Agrawal
- Thesis: Coping with Change in Distributed Systems
- Employer: Google

Xi Liu
- Thesis: Maximizing Spatial Reuse In Indoor Environments
- Employer: AIBEE

Dongsu Han
- Thesis: Supporting Long Term Evolution in an Internet Architecture
- Employer: KAIST

George Nychis
- Thesis: Towards Mitigating Heterogeneous Wireless Interference in Spectrum Bands with Unlicensed Access
- Employer: Soroco (founder)

Athula Balachandran
- Thesis: Large Scale Data Analytics of User Behavior for Improving Content Delivery
- Employer: Google

Richard Wang
- Thesis: Collecting, Analyzing, and Using Fine-Grain Sensor Data with Mobile Platforms
- Employer: Facebook

Matthew Mukerjee
- Thesis: Eliminating Adverse Control Plane Interactions in Independent Network Systems
- Employer: Nefali Networks

Tianlong Yu
- Thesis: Securing Internet-of-Things via Fine-grained Network Detection and Prevention
- Employer: Palo Alto Networks

Daehyeok Kim
- Thesis: Towards Elastic and Resilient In-Network Computing
- Employer: University of Texas, Austin

Devdeep Ray
- Thesis: Integrating Video Codec Design and Network Transport for Emerging Internet Video Streaming Applications.
- Employer: Google

M.S. STUDENTS

Ashwin Bharambe
- Thesis: Scalable and Secure Architectures for Online Multiplayer Games
- Employer: Figma

Hemant Bhanoo
- Thesis: Realistic Traffic Generators for Network Simulation
- Employer: Noominus (founder)

Xinyu Zhuang
- Thesis: Group Communication support for Multi-player Games

Benjamin Rister
- Employer: Google

Boyan Li
- Employer: Meta

Yuchen Wu
- Employer: Cloudflare

Serhat Kiyak
- Employer: Microsoft

Umar Javed
- Employer: doc.ai

Swapnil Patil
- Employer: Google

Pratch Piyawongwisal
- Employer: Rajamangala University

Qiaoyu Deng
- Employer: Apple

Kaushik Lakshminarayanan
- Employer: Facebook

A. Emre Ünal
- Employer: Dropbox

Jeffrey Helt
- Currently Ph.D. student at Princeton

Guoyao (Freddie) Feng
- Employer: SambaNova

Zihao (Allen) Liu
- Thesis: Content Delivery Optimization for the Future Internet Architecture
- Employer: Huawei

Helgi Sigtryggsson

Saurabh Roychowdhury

Andrew Liu

UNDERGRADUATE STUDENTS

Kevin Lin
- Employer: Radix Trading

Jiaheng Li (Peking University)

Deklin Caban (Ohio State)

Vicente Bobadilla Riquelme (Carleton College)
- Currently Ph.D. student at Univ. of Michigan

Joshua Slaughter (UMBC)
- Currently Ph.D. student at Univ. of Edinburgh

Thibaud Hottelier (EPFL)
- Employer: Google

Qinghua Ding (Tsinghua University)
- Currently Ph.D. student at UC, Berkeley

Junzhi Gong (Peking University)
- Currently Ph.D. student at Harvard University

Yang Shen (Peking University)

Zaira Jacome (Johnson C. Smith University)

Zhen Huang (Peking University)
- Employer: Kuaishou Technology

Ming Chen (Peking University)
- Employer: OpenAI

Xinyu Zhuang
- Project Title: Group Communication support for Multi-player Games

Zhenyu Zhou (Peking University)
- Employer: Google

Yuxiang Liu
- Project Title: Managing and Monitoring Spectrum Usage in a Wireless Network
- Employer: Ontra.ai

Sameer Moidu
- Project Title: Evaluating Dense, Residential Deployments of 802.11
- Employer: Indeed.com

Zachary R Anderson
- Thesis: Choosing Beacon Period for Improved Response Time for Wireless HTTP Clients
- Employer: Google

Aroon Pahwa
- Employer: Apple

Daniel Spangenberger
- Employer: Explo

Chun Ming Lee
- Thesis: Scaling Properties of the Internet Graph

Arvind Kannan
- Thesis: Scaling Properties of the Internet Graph
- Employer: Google

Michael Piatek
- Project Title: The Engage Communications System
- Employer: Databricks

Justin Weisz
- Thesis: Programming Tools for Internet Games
- Employer: IBM

Aditya Ganjam
- Thesis: Enabling Kernel processing for Web Proxies and Overlay Multicast
- Employer: Conviva (Founder)

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

David Naylor
> Ph.D. Thesis: Architectural Support for Managing Privacy Tradeoffs in the Internet

Junchen Jiang
- Ph.D. Thesis: Enabling Data-Driven Optimization of Quality of Experience in Internet Applications

Rui Meireles
- Ph.D. Thesis: Leveraging Diversity and Spatial Connectivity in Multi-hop Vehicular Networks

Huiguang Liang
- Ph.D. Thesis: Tattle – "Here's How I See It": Crowd-Sourced Monitoring and Estimation of Cellular Performance Through Local-Area Measurement Exchange

Hsu-Chun Hsiao
- Ph.D. Thesis: Toward a Highly Available Future Internet

Xiaohui (Eeyore) Wang
- Ph.D. Thesis: Environment Models for Realistic Simulation and Emulation of Wireless Networks

Amar Phanishayee
- Ph.D. Thesis: Chaining For Flexible And High-Performance Key-Value Systems

Shyamnath Gollakota (MIT)
- Ph.D. Thesis: Embracing Interference in Wireless Systems

Steven Okamoto
- Ph.D. Thesis Proposal: Network Design for Partial Centralization in Multi-agent Systems

Fahad Dogar
- Ph.D. Thesis Proposal: Architecting for Diversity at the Edge: Supporting Rich Network Services over an Unbundled Transport

Kyriaki Levanti
- Ph.D. Thesis: Routing Management From An Operational Perspective

Ashok Anand (Univ. of Wisconsin)
- Ph.D. Thesis: Redundancy Elimination as a Primitive

Eugene Marinelli
- M.S. Thesis: Hyrax: Cloud Computing on Mobile Devices using MapReduce

Hong Yan
- Ph.D. Thesis Proposal: A Practical System for Centralized Network Control

Glenn Judd
- Ph.D. Thesis: Using Physical Layer Emulation to Understand and Improve Wireless Networks

Gesly George
- M.S. Thesis: A Flexible MAC Development Environment for Software Radios

Georgios Nikolaidis (UCL)
- Ph.D. Thesis: Practical interference mitigation for Wi-Fi systems

Rajesh Balan
- Ph.D. Thesis: Tactics-Based Remote Execution

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

Hal Burch
- Ph.D. Thesis: Measuring the Internet in situ

David Petrou
- Ph.D. Thesis: Cluster scheduling for explicitly-speculative tasks

An-Cheng Huang
- Ph.D. Thesis: Building Self-configuring Services Using Service-specific Knowledge

Jun Gao
- Ph.D. Thesis: A Distributed and Scalable Peer-to-Peer Content Discovery System Supporting Complex Queries

Yang-hua Chu
- Ph.D. Thesis: Enabling Live Internet Broadcasting using an Application Endpoint Architecture

Kay Sripanidkulchai
- Ph.D. Thesis: Measurement-Driven Design of Peer-to-Peer Content Distribution Systems

Sanjay Rao
- Ph.D. Thesis: Establishing the Viability of End System Multicast using a Systems Approach to Protocol Design

Jorjeta G. Jetcheva
- Ph.D. Thesis: Adaptive Demand-Driven Multicast Routing in Multi-Hop Wireless Ad Hoc Networks

Ariton Xhafa
- Ph.D. Thesis: Analysis of Handover Priority Schemes in Wireless Networks

Dapeng Wu
- Ph.D. Thesis: Providing Quality-of-Service Guarantees in Wireless Networks

Wee-Seng Soh
- Ph.D. Thesis: Mobility Prediction Based Resource Reservation and Restorability Enhancement in Cellular Networks

Yih-Chun Hu
- Ph.D. Thesis: Enabling Secure High-Performance Wireless Ad Hoc Networking

Hen-I Yang
- M.S. Thesis: Service Discovery Systems

Carlos Olquin
- M.S. Thesis: A Service Brokerage Deployment Architecture

Jia-Cheng Hu
- M.S. Thesis: Conference Gateway Supporting Interoperability between SIP and H.323 Clients

Jiann-Min Ho
- M.S. Thesis: Conference Gateway Supporting Interoperability between SIP and H.323 Clients

Prashant Pradhan (SUNY, Stony Brook)
- Ph.D. Title: A Scalable Architecture for High Performance, Safely Extensible Routers