

Prashant Shenoy

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Research Interests

Operating and Distributed systems, Sensor networks, Mobile and Multimedia systems, Sustainability

Education

- August 1998 Doctor of Philosophy (Ph.D.), Department of Computer Sciences,
The University of Texas of Austin.
Dissertation title: *Symphony: An Integrated Multimedia File System*
Advisor: *Prof. Harrick M. Vin.*
- December 1994 Master of Science (M.S) in Computer Sciences
The University of Texas of Austin.
- July 1993 Bachelor of Technology (B.Tech), Department of Computer Science and Engineering
The Indian Institute of Technology, Bombay, India.

Work Experience

- 7/2020-present: Distinguished Professor, College of Information and Computer Sciences, University of Massachusetts Amherst
- 9/2017 - present, Director, Center for Smart and Connected Society
- 11/2018 - 8/2019, Director, IALS Center for Personal Health Monitoring
- 9/2016 - present: Associate Dean, College of Information and Computer Sciences, University of Massachusetts Amherst (part-time appointment)
- 9/2009-present: Professor, College of Information and Computer Sciences, University of Massachusetts Amherst
- 2017-2018: Visiting Faculty, IIT Bombay, India.
- Fall 2011: Visiting Researcher, NICTA, Sydney, Australia
- 9/2004-8/2009: Associate Professor, Department of Computer Science, University of Massachusetts Amherst.
- 9/1998-8/2004: Assistant Professor, Department of Computer Science, University of Massachusetts Amherst.
- 8/1995-8/1998: Graduate Research Assistant, Department of Computer Sciences, University of Texas at Austin.
- 5/1995-8/1995: Summer Intern, AT&T Bell Laboratories, Murray Hill, NJ.
- 8/1994-5/1995: Teaching Assistant, Department of Computer Sciences, University of Texas at Austin.

- 5/1994-8/1994: Summer Intern, Microsoft Research, Redmond, WA.

Expert Witness Experience

- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00141 for US Patent 6,931,558, “Computer Restoration Systems and Methods” Deposition October 2013 and March 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00142 for US Patent 6,931,558, “Computer Restoration Systems and Methods,” Deposition October 2013 and March 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00143 for US Patent 7,191,299, “Method and System of Providing Periodic Replication,” Deposition November 2013 and March 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00144 for US Patent 7,254,682, “Selective File and Folder Snapshot Image Creation,” Written testimony February 2013.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00145 for US Patent 7,254,682, “Selective File and Folder Snapshot Image Creation,” Written testimony February 2013.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2013-00150 for US Patent 7,093,086, “Disaster Recover and Backup Using Virtual Machines,” Deposited November 2013 and March 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2014-00088 for US Patent 7,480,822, “Recover and Operation of Captured Running States from Multiple Computing Systems On a Single Computing System,” Deposition June 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2014-00089 for US Patent 7,831,861, “Techniques for Efficient Restoration of Granular Application Data” Deposition June 2014.
- Veeam v. Symantec, *Inter Partes Review* Case IPR2014-00091 for US Patent 8,117,168, “Methods and Systems for Creating and Managing Backups Using Virtual Disks,” Deposition July 2014.
- SAP and Riverbed v. Parallel Networks, *Inter Partes Review*, Case IPR2014-01398 for US Patent 8,352,570 “Method and System for Uniform System Locator Transformation,” Written testimony August 2014.
- SAP and Riverbed v. Parallel Networks, *Inter Partes Review*, Case IPR2014-01399 for US Patent 7,571,217 “Method and System for Uniform System Locator Transformation,” Written testimony August 2014.
- Delphix v. Actifio, *Inter Partes Review* Case IPR2015-00100 for US Patent 8,566,361, “Datacenter Workflow Automation Scenarios Using Virtual Databases,” August 2015. Deposited.
- Delphix v. Actifio, *Inter Partes Review* Case IPR2015-00108 for US Patent 8,566,361, “Datacenter Workflow Automation Scenarios Using Virtual Databases,” August 2015. Deposited.
- Delphix v. Actifio, *Inter Partes Review* Case IPR2015-01678 for US Patent 8,299,944, “System and Method for Creating Deduplicated Copies of Data Storing Non-lossy Encodings of Data Directly in a Content Addressable Store,” August 2015. Deposited.
- Delphix v. Actifio, *Inter Partes Review* Case IPR2015-01689 for US Patent 8,788,769, “System and method for performing backup or restore operations utilizing difference information and timeline state information,” August 2015. Deposited.

- Cisco v. Egenera, *Inter Partes Review* Case IPR2017-01341 for U.S. Patent No. 7,231,430, “Reconfigurable Virtual Processing System, Cluster, Network and Method,” Deposited, January 2018.
- Cisco v. Egenera, *Inter Partes Review* Case IPR2017-01340 for U.S. Patent No. 6,971,044, “Service Clusters and Method in a Processing System with Failover Capability,” Deposited January 2018.
- Cisco v. HP Enterprise, *Inter Partes Review* Case IPR2017-01933 for U.S. Patent No. 8,478,799, “Namespace File System Accessing An Object Store,” Written testimony, August 2017
- EMC, Lenovo and NetApp v. IV, *Inter Partes Review* Case IPR2017-00374 for U.S. Patent no 8,275,827, “Software-based Network Attached Storage Services Hosted On Massively Distributed Parallel Computing Networks.” January 2018, Deposited.
- EMC, Lenovo and NetApp v. IV, *Inter Partes Review* Case IPR2017-00439 for U.S. Patent no 8,275,827, “Software-based Network Attached Storage Services Hosted On Massively Distributed Parallel Computing Networks.” January 2018, Deposited.
- Lenovo and EMC v. IV, *Inter Partes Review* Case IPR2017-00477 for U.S. Patent no 8,387,132, ” Information Packet Communication With Virtual Objects” February 2018, Deposited.
- Amazon and Amazon Web Services v. Personal Web Technologies and Level 3 Communications, *US District Court Patent Litigation*, Written testimony for US Patent nos 6,928,442; 7,802,310; 7,945,544; and 8,099,420. December 2018.
- Hybir v. Veeam, *Inter Partes Review* for U.S. Patent no 8,051,043, ”Group Based Complete and Incremental Computer Field Backup System, Process and Apparatus,” Written testimony, May 2020.
- Hybir v. Veeam, *Inter Partes Review* for U.S. Patent no 9,679,146, ”Group Based Complete and Incremental Computer Field Backup System, Process and Apparatus,” Written testimony, May 2020.
- Hybir v. Veeam, *Inter Partes Review* for U.S. Patent no 9,037,545, ”Group Based Complete and Incremental Computer Field Backup System, Process and Apparatus,” Written testimony, May 2020.

Highlights of Research Accomplishments

- Seventeen publications have received best paper or best paper runner-up awards. One paper received ACM Sigmetrics Test of Time award.
- Have published over 270 technical papers that have been cited more than 20,000 times. H-index of my publications is 74 as per Google Scholar.
- My research has received more than \$35M in federal funding from NSF, DoD, NASA, EPA and state funding from MA DOER.
- Technical area lead and UMass PI for Internet of Battlefield Things (IoBT) center funded by Army Research Labs, Oct 2017.
- Principal Investigator on a MA DOER award to establish the UMass Clean Energy center to conduct applied research and outreach in the area of clean energy. Have worked with state policy makers on clean energy issues as part of this effort.
- Awarded NSF Partnerships for Innovation (PFI) grant to conduct translational research and pilot deployments of energy efficiency technologies developed by my group.
- Collaboration with Holyoke Gas & Electric on big data and energy topics using smart meters.
- Have closely collaborated with the MGHPCC since its inception. Secured a multi-university NSF MRI award and an award from Mass. Life Sciences Center (MLSC) to deploy two large compute clusters for HPC and data science research at the MGHPCC.
- Have established several large research testbeds for the research community, including two GENI networking testbeds (DiCloud and ViSE), Smart* testbeds and the MassNZ solar powered data center.
- Served on the steering committees of IEEE Transactions on Mobile Computing, ACM BuildSys and ACM Sigcomm e-Energy. Current Chair of ACM e-Energy Steering committee.
- Received UMass President's Science and Technology Award thrice (2017, 2012 and 2007).
- BenchLab performance benchmarking software developed by my group has been downloaded by more than 9000 researchers and practitioners from 77 countries.

Honors and Awards

- Fellow of the ACM, 2019.
- Fellow of the AAAS, 2018.
- Fulbright Specialist Scholar, 2017-2018
- ACM Sigmetrics 2016 Test of Time Award.
- Fellow of the IEEE, 2013
- Distinguished member of the ACM, 2009.
- Best Paper Awards or Finalists:

- Best paper runner-up award, *ACM e-Energy 2020* Conference
 - Best paper award, *ACM e-Energy 2019* Conference
 - Best paper finalist, *ACM HPDC 2019* Conference
 - Best paper finalist, *ACM Buildsys 2017*.
 - Best paper Finalist, *ACM Buildsys 2014*.
 - Best paper, *ACM/IEEE IWQOS* symposium, Montreal, 2013
 - Best paper runner-up, *ACM eEnergy* conference, Berkeley, CA, 2013
 - Best papers of *IEEE PerCom 2012* conference (one of three papers chosen for this honor).
 - Best paper, *IEEE COMSNETS 2012* conference, India.
 - Best paper, *ACM Sigcomm GreenNets 2011* workshop, Toronto, Canada.
 - Best papers of ACM VEE 2009 conference (one of four papers chosen for this honor)
 - Best paper, *Usenix 2007* annual technical conference.
 - Best Paper, *ACM Multimedia 2005*, Singapore.
 - Best Student Paper Finalist, *ACM Multimedia 2005*.
 - Best Student Paper award, *IEEE Autonomic Computing conference (ICAC) 2005*.
 - Best Paper, *IEEE Web Information Systems Engineering Conference, 2002*.
 - Best Paper in Performance/Systems Category *World Wide Web Conference*, May 2002.
- Keynote Talks and Distinguished Lecture Talks
 - Distinguished Lecturer, Univ of Maryland Baltimore Country (May 2019), Colorado State University (March 2018)
 - Keynote Speaker, Asplos Edge Computing Workshop 2019,
 - Keynote Speaker, CPSWeek Fog Computing Workshop 2019,
 - Keynote Speaker, Cloud Control 2018
 - Keynote Speaker, ACM ICPE 2013 conference
 - Keynote Speaker, ACM GreenMetrics 2013
 - Keynote Speaker, IEEE E6 Energy Workshop, 2012.
 - Keynote speaker, TCS Excellence in Computer Science (TECS) Week, January 2012.
- Other honors and awards:
 - Conti Research Fellowship, 2020-2021.
 - NASA JSC Director's Innovation Group Achievement Award, Oct 2017 (given to NASA REALM project that we are part of)
 - NASA AES Innovation Award 2017 (given to NASA REALM project that we are part of)
 - UMass President Science and Technology Award, 2017, 2012 and 2007
 - Google Faculty Award, 2016 and 2013
 - IBM Faculty Partnership Award, June 2000, June 2001 and June 2003.

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