Debadatta Mishra

Department of Computer Science and Engineering

Indian Institute of Technology Bombay, Mumbai India 400076

Ph: 91-9967386513, Email: debiskms@gmail.com deba@cse.iitb.ac.in

Research interests

Operating systems, virtualization and cloud computing, networking systems, performance analysis and modelling of large scale systems, hardware architectures

Education

Indian Institute of Technology Bombay   *January 2012 - Present*
Ph.D. in Computer Science & Engineering (Defense pending)
Thesis title: Enabling Symbiotic Resource Management in Virtualized Systems
Overall GPA: 9.82/10
Advisor: Prof. Purushottam Kulkarni

Silicon Institute of Technology   *August 2005*
Master in Computer Application
Thesis: Implementation of Transactional TCP in Linux kernel
Percentage: 80.5% (Institute gold medal)

Experience

Department of CSE, IIT Bombay   Jan 2012 - Present
Teaching Assistant   *Mumbai, India*

- Course structuring, designing assignments and grading for graduate level courses :-
  Kernel programming, Virtualization and cloud computing,Advanced computer networks

- Mentoring Masters and Ph.D. students

Citrix R&D   April 2008 - November 2011
Senior software development engineer   *Bangalore, India*

- WAN optimization product development, proof of concept for exploratory product
  features, performance and scalability analysis

- WAN optimization middle box as a virtual appliance

TCS Innovation labs   November 2005 - April 2008
Assistant System Engineer   *Mumbai, India*

- Performance engineering research in systems and networking
- Analysis, design and implementation of tools for performance analysis
- Projects: WAN characterization, Wan emulation, DB emulation

Publications

Journal/Conference proceedings

- Synergy: A Hypervisor Managed Holistic Caching System, Debadatta Mishra, Purushottam Kulkarni, Raju Rangaswami. IEEE Transactions on Cloud Computing (accepted)
- Catalyst: GPU-assisted rapid memory deduplication in virtualization environments, Anshuj Garg, Debadatta Mishra, Purushottam Kulkarni. ACM SIGOPS/SIGPLAN conference on Virtual Execution Environments (VEE 2017) (accepted)
- StepAhead: Rethinking Filesystem Namespace Translations, Debadatta Mishra, Purushottam Kulkarni, Raju Rangaswami. Seventh ACM SIGOPS Asia-Pacific Workshop on Systems (APSys 2016).
- Vagabond: Dynamic Network Endpoint Reconfiguration in Virtualized Environments, Kallol Dey, Debadatta Mishra, Purushottam Kulkarni. Fifth ACM Symposium on Cloud Computing (SoCC 2014).
- Clouds + Games: A Multifaceted Approach, Debadatta Mishra, Magda El Zarki, Aiman Erbad, Cheng-Hsin Hsu, Nalini Venkatasubramanian. IEEE Internet Computing (2014).
- Comparative analysis of page cache provisioning in virtualized environments, Debadatta Mishra, Purushottam Kulkarni. Twenty-second IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2014).
- Share-o-meter: An empirical analysis of KSM based memory sharing in virtualized systems, Shashank Rachamalla, Debadatta Mishra, Purushottam Kulkarni. Twentieth IEEE International Conference on High Performance Computing (HiPC 2013).
- Predict the Storm: A Simulation Model to Measure Playability before the Game Development, Debadatta Mishra,Shashank Rachamalla,Magda El Zarki. IEEE International Conference on Communication Systems and Network Technologies (CSNT 2014).
- A new algorithm for measuring available bandwidth in wide area network, Hemanta Kumar Kalita, Manoj K Nambiar, Debadatta Mishra. Fifteenth IEEE International Conference on Advanced Computing and Communication (ADCOM 2007).

Under review/revision

- A Survey of Memory Management Techniques in Virtualized Systems, Debadatta Mishra, Purushottam Kulkarni. Elsevier Computer Science Review

Awards and recognition

- IBM Fellowship award, 2014
- All India rank 195, GATE 2011
- Star of the Quarter award, 2011 (Citrix R&D)
- FOSS 2008 award winner for WANem (TCS)
- Best student of the batch awards, 2002-2005 (Silicon)

Skills

Platforms	:	Xen, KVM, Linux, Unix, Windows, MAC
Software architectures	:	Operating systems, hypervisors and protocol stacks
Programming languages	:	C, C++, Java, Scripting languages (bash, awk)

References

- Purushottam Kulkarni, Associate Professor, Department of CSE, IIT Bombay, puru@cse.iitb.ac.in

- Umesh Bellur, Professor, Department of CSE, IIT Bombay, umesh@cse.iitb.ac.in

- Raju Rangaswami Associate Professor, College of Engineering and Computing, Florida International University, raju@cs.fiu.edu