

- [22] W. Xu, L. Huang, A. Fox, D. Patterson, and M. I. Jordan, "Detecting large-scale system problems by mining console logs," in *2009 SOSp*.
- [23] W. Xu, L. Huang, A. Fox, D. Patterson, and M. Jordan, "Online system problem detection by mining patterns for console logs," in *2009 ICDM*.
- [24] W. Xu, L. Huang, A. Fox, D. Patterson, and M. Jordan, "Mining console logs for large system problem detection," in *2008 SysML*.
- [25] D. Patnaik, M. Marwah, R. Sharma, and N. Ramakrishnan, "Sustainable operation and management of data center chillers using temporal data mining," in *2009 KDD*.
- [26] Z. Gong, P. Ramaswamy, X. Gu, and X. Ma, "SIGLM: signature-driven load management for cloud computing infrastructures," in *2009 IWQoS*.
- [27] T. M. Kroeger and D. D. Long, "The case for efficient file access pattern modeling," in *Proc. 1999 HotOS*.
- [28] T. M. Kroeger and D. D. Long, "Design and implementation of a predictive file prefetching algorithm," in *2002 USENIX*.
- [29] A. Gandhi, M. Harchol-Balter, R. Raghunathan, and M. A. Kozuch, "Autoscale: dynamic, robust capacity management for multi-tier data center," *ACM Trans. Computer Systems*, 2011.
- [30] Z. Shen, S. Subbiah, X. Gu, and J. Wilkes, "Cloudscale: elastic resource scaling for multi-tenant cloud systems," in *2011 SoCC*.
- [31] A. AutoScaling. Available: <http://aws.amazon.com/autoscaling/>.
- [32] S. Mylavarapu, V. Sukthakar, and P. Banerjee, "An optimized capacity planning approach for virtual infrastructure exhibiting stochastic workload," in *2010 SAC*.
- [33] S. Meng, L. Liu, and V. Soundararajan, "Tide: achieving self-scaling in virtualized datacenter management middleware," in *2010 MiddleWare*.

Yexi Jiang is currently a Ph.D. student in the School of Computer Science at Florida International University. He received B.S. and M.S. degree in Computer Science from Sichuan University in 2007 and 2010, respectively. His research interest includes system oriented data mining, intelligent cloud, large scale data mining, and semantic web.



Chang-Shing Perng is a research staff member in IBM T. J. Watson Research Center. He received his Ph.D. degree in computer science in 2000 from the University of California, Los Angeles, and has been at IBM since then. His current research interests include temporal data mining, autonomic computing and intelligent system management design.



Tao Li is currently an associate professor in the School of Computer Science at Florida International University. He received his Ph.D. degree in Computer Science in 2004 from the University of Rochester. His research interests are in data mining, computing system management, and information retrieval. He is a recipient of USA NSF CAREER Award and multiple IBM Faculty Research Awards.



Rong N. Chang is Manager and Research Staff Member at the IBM T.J. Watson Research Center. He received his Ph.D. degree in computer science and engineering from the University of Michigan at Ann Arbor in 1990 and his B.S. degree in computer engineering with honors from the National Chiao Tung University in Taiwan in 1982. Before joining IBM in 1993, he was with Bell Communications Research. He is a holder of the ITIL Foundation Certificate in IT Services Management. His accomplishments at IBM include the completion of a nomination-based Micro MBA Program, one IEEE Best Paper Award, and many IBM awards, including four corporate-level Outstanding Technical Achievement Awards and six division-level accomplishments in the areas of cloud computing, IT infrastructure Healthcheck, SLA and business service management, monitoring, and event management, and e-commerce. He is an Associate Editor of the IEEE TRANSACTIONS ON SERVICES COMPUTING. He has chaired several conferences and workshops in cloud computing and Internet-enabled distributed services and applications. He holds 20+ patents, and has published 40+ refereed technical papers at reputable international conferences and journals. He is a Senior Member of ACM and IEEE, and a member of Eta Kappa Nu and Tau Beta Pi honor societies.