Manish Parashar

Current Position

Distinguished Professor, Department of Computer Science   Telephone: (848) 445-5388
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(a) PROFESSIONAL PREPARATION

Bombay University, India	Electronics & Telecommunications	B.E., 1988
Syracuse University, Syracuse, NY	Computer Engineering	M.S., 1994
Syracuse University, Syracuse, NY	Computer Engineering	Ph.D., 1994
University of Texas at Austin, Austin, Texas	Computer Sciences	Post-doc, 1994-1995

(b) APPOINTMENTS

Assoc. Vice President	Rutgers Office of Adv. Research Computing	2014 – Present
Faculty Member	Rutgers Cancer Institute of New Jersey	2014 – Presents
Director	Rutgers Discovery Informatics Institute (RDI^2)	2012 – Present
Program Director	OCI, US National Science Foundation	2009 – 2011
Co-Director	Cloud & Autonomic Computing Center, Rutgers	2008 – Present
Associate Director	Center for Information Assurance, Rutgers	2008 – Present
Professor I	Rutgers University	2005 – Present
Associate Professor	Rutgers University	2002 – 2005
Assistant Professor	Rutgers University	1997 – 2002
Adj. Assistant Professor	University of Texas at Austin	1996 – 1997
Research Associate	CSM/ICES, University of Texas at Austin	1995 – 2005

(c) PRODUCTS

(Dr. Parashar has co-authored over 350 technical papers including paper in international journals & conferences, invited papers and book chapters and edited 7 books, 37 proceedings and 21 journal special issues.)

Five recent products most closely related to the proposed project

1. "Flexible Scheduling and Control of Bandwidth and In-Transit Services for End-to-End Application Workflows," M. Fatih-Aktas, G. Haldeman and M. Parashar, 4th International Workshop on Network-aware Data Management (NDM), SC'14, New Orleans, LA, USA, November 2014.
2. "ActiveSpaces: Exploring Dynamic Code Deployment for Extreme Scale Data Processing," C. Docan, F. Zhang, T. Jin, H. Bui, Q. Sun, J. Cummings, N. Podhorszki, S. Klasky, and M. Parashar, Concurrency and Computation: Practice and Experience, John Wiley & Sons, DOI: 10.1002/cpe.3407, 2014.
3. "In-situ Feature-based Objects Tracking for Data-Intensive Scientific and Enterprise Analytics Workflows," F. Zhang, S. Lasluisa, T. Jin, I. Rodero, H. Bui, M. Parashar, Cluster Computing: The Journal of Networks, Software Tools, and Applications, Kluwer Academic Publishers, 2014.
4. "Scalable Run-time Data Indexing and Querying for Scientific Simulations," Q. Sun, F. Zhang, T. Jin, H. Bui, K. Wu, A. Shoshani, H. Kolla, S. Klasky, J. Chen and M. Parashar, 5th International Workshop on Big Data Analytics: Challenges, and Opportunities (BDAC-14), SC'14, New Orleans, LA, USA, Nov. 2014.
5. Deployed the DataSpaces data management substrate for enabling extreme scale coupled workflows with in-situ/in-transit analytics and data staging – dataspaces.org.

Five other recent relevant products

1. "CometCloud: Enabling Software-Defined Federations for End-to-End Application Workflows," J. Diaz-Montes, M. AbdelBaky, M. Zou, and M. Parashar. IEEE Internet Computing **19**, 69-73 (2015). DOI: 10.1109/MIC.2015.4
2. "Federated Computing for the Masses – Aggregating Resources to Tackle Large-Scale Engineering Problems," J. Diaz-Montes Y. Xie, I. Rodero, J. Zola, B. Ganapathysubramanian, and M. Parashar, *IEEE Computing in Science and Engineering (CiSE) Magazine*, IEEE Computer Society Press and AIP, **16**, 62-72, 2014. DOI: 10.1109/MCSE.2013.134
3. "Cloud Paradigms and Practices for Computational and Data-Enabled Science and Engineering," M. Parashar, M. Abdelbaky, I. Rodero, *IEEE Computing in Science and Engineering (CiSE) Magazine*, IEEE Computer Society Press and AIP, **15**, 10-18 (2013). DOI: 10.1109/MCSE.2013.49
4. "Market Models for Federated Clouds," I. Petri, J. Diaz-Montes, M. Zou, T. Beach, O. Rana, M. Parashar, *IEEE Transactions on Cloud Computing*, *Special Issue on Cloud Economics,* IEEE Computer Society Press, 2015.

5. Deployed several software systems including DataSpaces for extreme scale coupled workflows, DART for high-throughput, low latency data extraction and streaming, AutoMate/Accord/Meteor to support autonomics, and GrACE/DAGH and MACE/Seine for dynamically adaptive and coupled simulations.

(d) SYNERGISTIC ACTIVITIES

1. Associate Vice President for Research Computing at the Rutgers Office of Advanced Research Computing, Founder of the Rutgers Discovery Informatics Institute, Co-Director of the NSF Industry/University Cloud and Autonomic Computing Center and Co-founder of the IEEE International Conference on Autonomic Computing (ICAC). Leading Advanced Cyberinfrastructure strategic planning at Rutgers. Presented several tutorials and short courses on science clouds, in-situ data analytics and autonomics. PI and O&M lead for Cyberinfrastructure for the Oceans Observatory Initiative.
2. Program chair: I2CE 2015, IC3 2012-2015, UCC 2012-2013, 2015, vice program co-chair: CCGrid 2015, general chair: IPDPS 2014, BDC 2014, HPDC 2013, poster chair: SC 2015, served on organizing committees of over 300 conferences/workshops (29 general chair, 42 program chair, 39 workshop chair).
3. Co-Editor in Chief, ACM Transactions on Autonomous and Adaptive Systems (TAAS), Associate Editorial in Chief of IEEE TPDS, member of the editorial board of 22 international journals including ACM Computing Surveys, IEEE-TC, IEEE-TCC, IEEE-TSC, IEEE TBD, IEEE CiSE, IEEE IoT-J, JPDC, CCPE and Cluster Computing, and member of the steering committees of 10 conferences including SC, HPDC, ISC, CAC, HiPC and CCGrid.
4. Fellow of AAAS, Fellow of IEEE/IEEE Computer Society, ACM Distinguished Scientist, Awards chair of IEEE Computer Society Technical Committee on Scalable Computing (TCSC), member of the executive committee of IEEE Computer Society Technical Committee on Parallel Processing (TCPP).

(e) COLLABORATORS & OTHER AFFILIATIONS

Collaborators and Co-Editors: (92)
H. Abbasi (ORNL), S. Abdelwahed (MSU), M. Adams (Columbia), G. Agha (UIUC), G. Agnew, (Rutgers), A. Agrawal, (NWU), S.Ahern (ORNL), J. Ahrens(LANL), A. Aiken(Stanford), A. Akoglu (U.of Arizona), D. Bader (Georgia Tech), I. Banicescu (MSU), J. Bell (LBNL), J. Bennett (SNL), H. Berman (Rutgers), W. Bethel (LBNL), P. T. Bremer (LLNL), J. Browne (U. of TX, Austin), E. Brugger (LLNL),U.Catalyurek (OSU), C. S. Chang (PPPL), J. Chen (Sandia) H, Childs (LBNL), A. Choudhary (NWU), J. Cummings (Cal Tech), S. Ethier (PPPL), E. Feibush (PPPL), R. Figueiredo (U. of FL), L. Fong (IBM),J. Fortes (U. of FL), B. Ganapathysubramanian (ISU), B. Geveci (Kitware), M. Greenwald (MIT), P. Hanrahan (Stanford), C. Hansen (U.Utah) ,S.Hanson(Rutgers),S. Hariri (U. of Arizona), J. Hesthaven (Brown), J. Huang (U. Tenn. Knoxville), R. Jantz (Rutgers),C. Johnson (U. Utah),K. Jordon (IBM), K. Joy (U. C. Davis), D. Katz (U of Chicago), S. Klasky (ORNL), H. Kolla (SNL),A. Kritz (Lehigh), T. Kurc (Emory), G. Laskaris (NJEdge.net), R. Latham (ANL), W. Liao (NWU), J. Lofstead (SNL), J. Logan (ORNL), K. L. Ma (U.C. Davis), C. Maher (Rutgers),P. McCormick (LANL), L. Michelson (Rutgers),K. Moreland (Sandia), R. Moser (U. of TX, Austin), T. Nguyen (Rutgers), R. A. Oldfield (SNL), M. Papka (ANL), M. Parashar (Rutgers) ,S. Parker (U of CO), V. Pascucci (U Utah), T. Peterka (ANL), V. Prasanna (USC), N. Podhorszki (ORNL), S. Poole (ORNL), D. Quinlan (LLNL), R. Ross (ANL), J. Saltz (Emory), N. Samatova (NCSU), K. Schwan (Georgia Tech), J. Sexton (IBM), J. Shalf (LBNL), H-W. Shen (OSU), M. Shephard (RPI), A. Shoshani (LBNL), D. Smith (Rutgers) S. Srinivasan (U. of TX, Austin), L. Sugiyama (MIT), G. Tynan (UCSD), C. Varela (RPI), V. Vishwanath (ANL), J. Weissman (UMN), M. F. Wheeler, (U of TX, Austin), M. Wolf (Georgia Tech), P. Worley (ORNL), J. Woodring (LANL), K. Wu (LBNL), H. Yu (U. of Nebraska-Lincoln)

Graduate and Postdoctoral Advisors:
Graduate Advisor: (1) Salim Hariri, University of Arizona
Postdoctoral Advisors: (2) James Browne & Richard Matzner, University of Texas at Austin
Thesis Advisor and Postgraduate-Scholar Sponsor:
Post-Doctoral: (4) H. Bui, J. Diaz, V. Potluru, I. Rodero
Ph.D. Students: (13) M. AbdelBaky, M. F. Aktas, M. Gamell, G. Haldeman, T. Jin, A. Pelaez, J. Ren, Q. Sun, S. Swami, D. Wang, F. Zhang, A. Zamani, M. Zou
Past Ph.D. Students/Post-Docs: (15) V. Bhat (Yahoo), S. Chandra (Bloomberg), C. Docan (Google), A. Hernandez (Xerox), N. Jiang (Microsoft), H. Kim (Xerox), X. Li (Univ. of FL), Z. Li (Ayasdi), H. Liu (Microsoft), V. Matossian (Altair), C. Schmidt (Google), M. Wang (Google), G. Zhang (FactSet), L. Zhang (Bloomberg), J. Zola (Univ. of Buffalo, NY)
Other advisees: MS Thesis – 51 (48 completed), Undergraduate – 1