

## **Mohammad Javad Rashti**

Assistant Professor  
Computer Engineering Department,  
Shahid Chamran University  
Ahvaz, Iran

Phone: +98 (916) –641 – 5637  
+98 (613) 3330011-19, Ext. 5704  
Email: [mohammad.rashti@scu.ac.ir](mailto:mohammad.rashti@scu.ac.ir)  
[mjrashti.scu@gmail.com](mailto:mjrashti.scu@gmail.com)

C.V.: last updated: Jan 2024

---

### **Objective**

R&D in Electrical/Computer Engineering in the area of high-speed interconnection networks, high performance computing (HPC), Cloud computing, Big data processing and related technologies.

---

### **Education**

- PhD. Queen's University**  
(2011) Department of Electrical and Computer Engineering  
PhD in Computer Engineering  
PhD Dissertation: Improving Message Passing Performance and Scalability in High Performance Clusters  
Supervisor: Dr. Ahmad Afsahi
- M.Sc. Sharif University of Technology**  
(2003) Department of Computer Engineering  
Computer Architecture Engineering Degree  
Thesis: Virtual Private Networks Security using IXP1200 Network Processor  
Supervisor: Dr. Hamidreza Rabiee
- B.Sc. University of Tehran**  
(2000) Department of Electrical and Computer Engineering  
Computer Hardware Engineering  
Thesis: A Universal Microprocessor Simulator  
Supervisor: Dr. Maghsoud Abbaspur

---

### **Academic/Professional Experience**

- Shahid Chamran University**  
(2/2016 – present) As an assistant professor and faculty member in the department of computer engineering, school of engineering, director of IT services and founder of innovation and creativity center at SCU.
- RNET**  
(11/2011-01/2016) As a Senior Research Engineer, working on research and development of HPC-related protocol processing offload, HPC power monitoring, and HPC in Big Data (MPI and Hadoop).
- PPRL, Queens University**  
(11/2010- 10/2011) As a Postdoctoral Fellow at [Parallel Processing Research Laboratory](#), doing research on HPC clusters. Collaborative research with: Mellanox Technologies, Inc., and Argonne National Laboratory, NetEffect Inc., and Platform Computing.

<b>PPRL, Queens University</b> (09/2005- 10/2010)	As a PhD student and research assistant at <a href="#">Parallel Processing Research Laboratory</a> , doing research on HPC clusters. Collaborative research with: NetEffect Inc., Mellanox Technologies, Inc., and Argonne National Laboratory.
<b>Queen's ECE department</b> (01/2006-04/2009)	As a teaching fellow (course instructor) and teaching assistant in the department of Electrical and Computer Engineering
<b>Queen's Library Systems</b> (09/2007-09/2008)	As a library web assistant. Migrating the Queen's library research content into a new content-management system.
<b>AICT Center of Sharif University</b> (08/2003 –09/2005)	-As a member of DML research lab working on the design of Video Servers and Video Streaming (grants by Iran Telecommunication Research Center-ITRC). -At DML, working on Embedded Linux solutions such as Thin clients and Kiosks.
<b>AICT Center of Sharif University</b> (09/2001-07/2003)	Research at DML laboratory on Virtual Private Networks Security and Network Processors (grants by ITRC)
<b>Shahid Chamran University</b> (09/2002-09/2005)	As an Instructor and Faculty member at Faculty of Engineering, achieved the honour of the most popular teacher in the department
<b>Ports and Maritime Organization – Imam Khomeini Port</b> (09/2004-01/2005)	Instructor of staff training program for Computer Networks course
<b>Sharif University of Technology</b> (07/2001-09/2001)	As a laboratory instructor at Digital Electronics Lab.
<b>Creative Digital Technology (CDT)</b> (04/2000-08/2001)	Developing web based financial and e-commerce systems using Java in the Tehran branch of CDT
<b>Iran Telecommunication Research Center</b> (Internship, Summer 1999)	Development of a communication minimum-system on FPGA, using VHDL (including several board functionalities such as HDLC controller, timer, etc.)
<b>Barid Soft Co.</b> (07/2001-10/2001)	Developing web-based automation systems and e-banking using ASP.

---

## Scholarships and Awards

1. Teaching Excellence Award, SCU, 2022
  2. E-Learning Management Award, SCU, 2020.
  3. Green Management Award, SCU, 2019.
  4. Best Poster Award – ACM HPDC Conference, 2015
  5. HPCC Systems Ambassador, granted by LexisNexis, 2014
  6. DOE SBIR Award, Principal Investigator, 2013.
  7. NSERC Industrial R&D Fellowship (2010-2012, pre-approved)
  8. NSERC Visiting Fellowship (2011, pre-approved)
  9. Ontario Graduate Scholarship (2009-2010)
  10. Queen's Graduate Award (2005-2009)
  11. Sun Microsystems of Canada HPCVL Research Scholarship (2006-
-

---

2007)

12. Nortel Networks Graduate Fellowship (2006-2007)
  13. Conference Travel Award: HPCS2008, Hot-Interconnects 2007, HiPC 2010
  14. Rank 39 in nationwide graduate-level university entrance exam for computer engineering.
  15. Rank 396 in nationwide undergraduate university entrance exam (among 100,000s of participants)
- 

## Patents

1. R. E. Grant, M. J. Rashti, P. Balaji, A. Afsahi, "Remote Direct Memory Access over Datagrams", U.S. Patent No. 8903935, Dec. 2014.
- 

## Publications

*Due to the nature of our research field that is tied with very fast-paced technology evolutions, the most innovative research ideas are published in conference and specialized workshop papers. Books and journal publications, due to their long review and publication time, attract lower attention in academia.*

## Papers & Book Chapters

[C25] S. Jookhzadeh, M. Naderan and M. J. Rashti, "Comparative study of QoS Measures in LTE Networks based on Software Defined Networking," 2023 7th International Conference on Internet of Things and Applications (IoT), Isfahan, Iran, Islamic Republic of, 2023, pp. 1-7, doi: 10.1109/IoT60973.2023.10365358.

[J9] Ziba Khandezamin, Marjan Naderan, Mohammad Javad Rashti, "Detection and classification of breast cancer using logistic regression feature selection and GMDH classifier," Journal of Biomedical Informatics, Volume 111, 2020, 103591, ISSN 1532-0464, <https://doi.org/10.1016/j.jbi.2020.103591>, © Elsevier.

[J8] Akram Mihanpour, Mohammad Javad Rashti, Seyed Enayatallah Alavi, "CoReHAR: A Hybrid Deep Network for Video Action Recognition" International Journal of Web Research, vol. 3, No. 1, pp. 1-10, 2020. Doi: 10.22133/ijwr.2020.242723.1063.

[J7] Ziba Khandezamin, Marjan Naderan, Mohammad Javad Rashti, "Intelligent detection of breast cancer with feature selection based on logistic regression and SVM," Journal of Soft Computing and IT, Vol 9, No. 2, p. 11, 2020 (in Persian).

[C24] A. Mihanpour, M.J. Rashti, S.E. Alavi, "Human action recognition in video using DB-LSTM and ResNet", Proceedings of the 3<sup>rd</sup> International Conference on Web Research, April 2020, Tehran, Iran, ©IEEE.

[C23] M. Abrishami, M.J. Rashti, M. Naderan. "Machine translation using improved attention-based transformer with hybrid input", Proceedings of the 3<sup>rd</sup> International Conference on Web Research, April 2020, Tehran, Iran, ©IEEE.

[C22] R. Mansouri, M. Naderan, M.J. Rashti. "Fake News Detection in Social Media Using Semi-Supervised Learning Method," Proceedings of the 28<sup>th</sup> Iranian Conference on Electrical Engineering (ICEE2020), May 2020, Tabriz, Iran, © IEEE.

[J6] A. Jahanjoo, M. Naderan, M.J. Rashti. Detection and multi-class classification of falling in elderly people by deep belief network algorithms. J Ambient Intell. Human Comput. (2020). <https://doi.org/10.1007/s12652-020-01690-z>.

[C21] Ziba Khandezamin, Marjan Naderan, Mohammad Javad Rashti, "Detection of breast cancer using machine learning and fuzzy systems,"

Proceedings of the 2<sup>nd</sup> National CEIT conference, Ahwaz, Iran, 2019 (in Persian).

[J5] S. E. Alavi, E. Zare, M.J. Rashti, "Brain Tumors Detection on MRI Images through Extracting HOG Features," JOURNAL OF ADVANCED APPLIED SCIENTIFIC RESEARCH (JOAASR), Vol 2, No1, 2018.

[C20] Mosab Rezaei, Seyed Enayatalla Alavi, Mohammad Javad Rashti, "Face detection using deep convolutional neural networks," Proceedings of the 1<sup>st</sup> National CEIT conference, Ahwaz, Iran, 2018 (in Persian).

[C19] A. Jahanjoo, M. Naderan Tahan, M. J. Rashti, "Accurate Fall Detection Using 3-Axis Accelerometer Sensor And MLF Algorithm, " Proceedings of the 3rd IEEE International Conference on Pattern Recognition and Image Analysis (IPRIA 2017), April 19-20, 2017.

[J4] Mohammad Rashti, Gerald Sabin, Rajkumar Kettimuthu, "Long-haul Secure Data Transfer using Hardware-assisted GridFTP," FUTURE GENER COMP SY, Volume 56 Issue C, March 2016, pp. 265-276, © Elsevier Science, 2016.

[C18] Amir Farzad, Boyana Norris, Mohammad Rashti, "Portable Power/Performance Benchmarking and Analysis with WattProf, " The 6th International Workshop on Performance Modeling, Benchmarking and Simulation of High Performance Computer Systems, in conjunction with SC15, Austin, TX, Nov. 2015.

[C17] Mohammad Rashti, Gerald Sabin, David Vansickle, Boyana Norris, "WattProf: A Flexible Platform for Fine-grained HPC Power Profiling," in Proceedings of the 2<sup>nd</sup> HPCMASPA Workshop, in conjunction with IEEE Cluster 2015 Conference, pp. 698-705, Chicago, IL.

[C16] Mohammad Rashti, Gerald Sabin, Boyana Norris "Power and Energy Analysis and Modeling of High Performance Computing Systems using WattProf," Proceedings of the IEEE NAECON 2015 Conference, 2015, Dayton, OH.

[P2] Mohammad Rashti, Gerald Sabin, "Security Offload using SmartNIC: A User-programmable 10Gbps Ethernet NIC," Poster in IEEE NAECON 2015 Conference, 2015, Dayton, OH.

[P1] Amir Farzad, Boyana Norris, Mohammad Rashti, "A Prototype for Fine-grained Application Power/Performance Monitoring and Analysis" Poster in International ACM Symposium on High Performance Parallel and Distributed Computing (HPDC), Portland, Oregon, June 2015, **winner of the Best Poster Award**.

[J3] Ryan E. Grant, Mohammad J. Rashti, Pavan Balaji, and Ahmad Afsahi, "Scalable Connectionless RDMA over Unreliable Datagrams," Elsevier Journal of Parallel Computing, Volume 48, October 2015, Pages 15–39.

[BC2] Ryan E. Grant, Mohammad J. Rashti, Pavan Balaji, and Ahmad Afsahi, "Scalable Network Communication using Unreliable RDMA", Book Chapter, Handbook on Data Centers, pp. 393-424, Eds. Albert Y. Zomaya and Samee U. Khan, Publisher: Springer, May 2015.

[C15] M. J. Rashti, G. Sabin, R. Kettimuthu, "Enhancement of GridFTP through Hardware Offloading," Workshop on Innovating the Network for Data Intensive Science (INDIS), in conjunction with IEEE/ACM Supercomputing Conference, SC14, New Orleans, Louisiana, Nov. 2014.

[C14] M. J. Rashti, J. Green, P. Balaji, A. Afsahi and W. Gropp, "Multi-core and

Network Aware MPI Topology Functions,” 18th EuroMPI conference, Recent Advances in the Message Passing Interface (EuroMPI 2011), Santorini, Greece, September 18-21, 2011.

[C13] R. E. Grant, M. J. Rashti, P. Balaji, A. Afsahi, “RDMA-capable iWARP over Datagrams,” in *IEEE International Parallel and Distributed Processing Symposium (IPDPS) 2011, Anchorage, Alaska*.

[C12] M. J. Rashti, R. E. Grant, P. Balaji and A. Afsahi, “iWARP Redefined: Scalable Connectionless Communication Over High-Speed Ethernet,” in *17th IEEE International Conference on High Performance Computing (HiPC)*, Goa, India, December 2010.

[BC1] M. J. Rashti and Ahmad Afsahi, “*Modern Interconnects for High-Performance Computing Clusters*”, Book Chapter, 2010, Nova Science Publishers, Inc.

[C11] M. J. Rashti and A. Afsahi, “Improving RDMA-based MPI Eager Protocol for Frequently-used Buffers”, *Proceedings of the 23rd International Parallel and Distributed Processing Symposium (IPDPS 2009)*, Rome, Italy, May 25-29, 2009.

[J1] M. J. Rashti and A. Afsahi, "A Speculative and Adaptive MPI Rendezvous Protocol over RDMA-enabled Interconnects", *International Journal of Parallel Programming*, Volume 37, No. 2, April 2009, pp 223-246. Springer.

[C10] Y. Qian, M. J. Rashti, and A. Afsahi, "Multi-connection and Multi-core Aware All-Gather on InfiniBand Clusters", *Proceedings of the 20th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2008)*, Orlando, Florida, USA, November 16 – 18, 2008.

[C9] R. E. Grant, M. J. Rashti, and A. Afsahi, "An Analysis of QoS Provisioning for Sockets Direct Protocol vs. iPoIB over Modern InfiniBand Networks", *Proceedings of the 37th International Conference on Parallel Processing (ICPP 2008)*, Portland, Oregon, USA, September 12, 2008.

[C8] M. J. Rashti and A. Afsahi, “Improving Communication Progress and Overlap in MPI Rendezvous Protocol over RDMA-enabled Interconnects,” *22<sup>nd</sup> High Performance Computing Symposium (HPCS)*, Quebec City, Canada, June 2008.

[C7] M. J. Rashti and A. Afsahi, “Assessing the Ability of Computation/Communication Overlap and Communication Progress in Modern Interconnects”, *15th Annual IEEE Symposium on High-Performance Interconnects (Hot Interconnects 15)*, Palo Alto, CA, USA, August 2007.

[C6] M. J. Rashti and A. Afsahi, "10-Gigabit iWARP Ethernet: Comparative Performance Analysis with InfiniBand and Myrinet-10G", *21st International Parallel and Distributed Processing Symposium (IPDPS 2007)*, Long Beach, California, March 2007.

[C5] S. Darabi, N. Mashadizadeh, and M. J. Rashti, “Embedding an Accounting Server in Kerberos Architecture,” *Proceedings of ISCC2005 Conference*, Isfahan, Iran.

[C4] M. J. Rashti, H. R. Rabiee, A. M. Shafiee and A. Foroutan, “Multidimensional NP-Based Packet Filtering,” *Proceedings of International Conference on Networking (ICN2004)*, Co-Sponsored by IEEE/IEE, March 2004, Guadeloupe, French Caribbean.

[C3] M. J. Rashti, H. R. Rabiee, A. Foroutan and M. Lavasani, “A Multidimensional Packet Classifier for NP-Based Firewalls,” *Proceedings of*

*IEEE International Symposium on Applications and the Internet (SAINT)*, Tokyo, Japan, January 2004.

[C2] M. J. Rashti, H. R. Rabiee, A. Foroutan and M. Lavasani, "Performance Evaluation of IXP1200 Network Processor for Network Security Applications," *Proceedings of the 2nd Iran Society of Cryptology Conference ISC'2003*, October 2003, Tehran, Iran.

[C1] M. J. Rashti and H.R. Rabiee, "Performance Evaluation of AES finalists, using Java," *2nd AOCST applied conference*, Tehran, Iran, 2003.

---

## Conference/Journal

### Review

- TPC member: IEEE CCGrid 2012, BDDAC 2013, BDDAC 2014, AINA 2014, HotI 2014 tutorials, HotI 2015, HPCMASPA 2015, HotI 2016, HPCMASPA 2016, Ceitconf National conference 2018, 1<sup>st</sup> – 3<sup>rd</sup> Khuzestan Nasr conference (2018, 2019), Ceitconf 2019.

- Technical reviewer for IEEE ICCCN 2011, Springer Journal of Cluster Computing the Journal of Networks, Software Tools and Applications – 2011, 2012, SAGE IJHPC – 2011, Elsevier FGCS – 2012, 2013; Journal of Parallel Computing – 2013, Canadian Journal of ECE – 2014, Iranian Journal of ECE (IJECE) – 2018, Iranian Journal of Electrical Engineering (IJEE) – 2018, IEEE Access journal – 2019, IEEE Micro Journal 2019.

---

## Projects

### Current Collaborative Projects

- IoTrain – M.Eng. in Internet of Things, programme design and development, EU Erasmus+ CBHE international consortium project (role: Project manager @SCU) – 2020 to 2024.
- Unitel – Modernization and internationalization of Iranian HEIs via collaborative TEL-based curriculum development in engineering and STEM, EU Erasmus+ CBHE international consortium project (role: Remote lab designer @SCU) – 2020 to 2023.
- Virtual drilling simulator, from National Iranian Drilling Company (NIDC), 2021 – 2024.
- SRP pump simulator, from National Iranian South Oil Company (NISOC), 2019 – 2022.
- Chamran Shahr (SCU Campus), System and application for university campus
- Application for data collection and analysis of oil wells and pumps, Faraz Novin, 2019-2020.

---

## Synergic and

## Management

### Activities

- Director** Information Technology Center of SCU
- Founder and director** Innovation and Creativity Center of SCU
- Scientific Chair** 2nd National Conference on Digital Transformation and Intelligent Systems, 2024
- Scientific Chair** 1st National Conference on IoT with focus on Industry and Agriculture, 2023
- Executive Chair** 1<sup>st</sup> IoT Winter School, SCU, 2023

**Executive Chair** 5th National Mobile Programming Marathon, 2018  
**Executive Chair** 1st Growth Acceleration Entrepreneurship Event  
**Keynote speaker** 2nd National CEIT conference  
**Consultant** Khuzestan CERT, Khuzestan Incubation Center, Khuzestan Science and  
Technology Park, SCU Research and Technology Council, ....