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Research Interests

My research focuses on big data computing and analytics techniques in the following aspects: (1) improving accuracy and security of big data analysis models; (2) optimizing performance and scalability of big data processing and parallel computing systems, including multi-threading, HPC, Cloud and GPU platforms; (3) using program analysis and deep learning techniques to detect and prevent programming errors and execution anomaly in big data and/or parallel programs.

Employment History

08/2022 - present:	Full Professor, Dept. of Computer Science, Univ. of Central Florida.
08/2015 - 07/2022:	Associate Professor, Dept. of Computer Science, Univ. of Central Florida.
08/2018 - 08/2021:	Graduate Coordinator, Dept. of Computer Science, Univ. of Central Florida.
07/2012 - 07/2015:	Associate Professor, Dept. of Computer Science, Univ. of Wyoming.
07/2012 - 06/2013:	Visiting Research Scientist (Sabbatical), IBM T.J. Watson Research Center, NY.
08/2006 - 06/2012:	Assistant Professor, Dept. of Computer Science, Univ. of Wyoming.
07/1998 - 07/2000:	Lecturer, Department of Computer Science, Hebei University of Economics and Business, China.

Educational Background

Ph.D. in Computer Science	State University of New York at Stony Brook	Aug. 2006
M.S. in Computer Science	State University of New York at Stony Brook	Dec. 2003
M.Eng. in Computer Science	Sichuan University, China	Jul. 1998
B.S. in Mathematics	Hebei Normal University, China	Jul. 1995

Grants

- Co-PI, *CIVIC-FA Track A: Reimagining Urban Resilience and Education Hubs Using a Community-Engaged, Equity-Centered Approach.* With Dr. Kelly Stevens (PI), Drs. Marsh, Ge, Qu. NSF. $970,975. 10/2023-09/2025.
- Sole PI, *The Battle against Neural Plagiarism: Calling for Effective Approaches and Countermeasures in Protecting Data Privacy.* Google. $10,000. 05/2023.
- Co-PI, *CIVIC-PG Track A: Reimagining Urban Resilience and Education Hubs Using a Community-Engaged, Equity-Centered Approach.* With Dr. Kelly Stevens (PI), Drs. Marsh, Ge, Qu. NSF. $50,000, 09/2022-08/2025.

- Sole PI, *Education in Advanced Artificial Intelligence.* Facebook Inc. $50,000. 01/2022-12/2023.
- Co-PI, *Advancing Interdisciplinary Cyber Security and Privacy Research*, $150,000, 2021. UCF Jump Start Award. PI: Paul Gazzillo.
- PI in UCF, *Context-aware Unobtrusive Sensing for Indoor Navigation Environment (COSINE).* DoD STTR. $53,040. With Dr. Devu M. Shila (Industrial Leader). 01/2021-06/2021.
- PI, *An AI-Powered and Epidemiology-Informed Modeling System for Accurate COVID-19 Prediction and Analysis.* UCF. $37,000. With Dr. Shunpu Zhang (Co-PI), my share 75%. 08/2020-05/2022.
- Co-PI, *SCC-IRG Track 2: Leveraging Smart Technologies and Managing Community Resilience through Networked Communities and Cross-Sector Partnerships.* NSF. $1,225,000. PI, Dr. Yue Ge, my share 25%. 09/01/2020-08/31/2023.
- Sole PI, *Privacy Enhancing Technologies: Tools and Techniques.* Florida High Tech Corridor Council and Unknot.id Inc. $50,000. 08/2020-5/2021.
- Sole PI, *UCF Mid-Career Refresh Award.* University of Central Florida. $54,890. 04/2020-06/2022.
- PI, *RI: Medium: Collaborative Research: Understanding and Editing Visual Sentiment.* NSF. $485,688 (Prior PI, Dr. Guojun Qi). 07/01/2017-06/30/2022.
- Sole PI, *ICE-T:RI: Towards End-to-End Resource Optimization for Time-Critical Computing Using Reinforcement Learning and Program Analysis.* NSF. $100,000. 10/01/2018-09/30/2019.
- PI in UCF, *Security-Aware Virtual Machine Management on Cloud Platform Using the Game-Theoretic Approach.* Florida Center for Cybersecurity. $35,479. 07/01/2018-06/30/2019.
- Sole PI, *Efficient Hierarchical Big Data Computing System.* Office of Naval Research (DURIP). $154,184. 02/01/2018-01/31/2019.
- Co-PI, *BIGDATA: IA: Distributed Semi-Supervised Training of Deep Models and Its Applications in Video Understanding*, with Boqing Gong (Prior PI) and Mubarak Shah (Current PI). NSF. $662,431.00 + $274,269 (Cloud Usage Credits), my share 33%. 09/01/2017-08/31/2020.
- Sole PI, *Big Data Research Using Amazon AWS.* $15,000. Amazon.com, Inc. 08/2017-07/2018.
- Sole PI, *Interdisciplinary "Enhanced Experience" Training on Atmospheric Big Data Analytics*, Supplemental Fund. NSF. $10,694. 09/2016-08/2017.
- PI, *Optimizing Performance for Cloud and Big Data Computing.* $2,550. UCF I-Corps. 01/2016-07/2016.
- Sole PI, *Big Data Research on Cloud Computing Using Amazon AWS.* $10,000. Amazon.com, Inc. 10/2015-10/2016.
- Co-PI, *Wyoming High Performance Computational Science and Engineering Cluster*, with Dimitri Mavriplis (PI) et al., $1.25m (Dr. Wang's portion around $250,000). University of Wyoming. 09/2014-09/2016.

- PI, *HPC and Cloud Equipment Enhancement*. $200,000. University of Wyoming, 2014.
- Sole PI, *Research and Education on Cloud Computing Using Amazon AWS*. $20,000. Amazon.com, Inc. 04/2013-04/2015.
- PI, *Petascale Implementation and Optimization of LSQR and SeisSol*, with Po Chen (Co-PI). NSF, subaward from the University of Illinois at Urbana-Champaign, $75,000. 05/2012-05/2013.
- Sole PI, *CSR:Small: Towards Reliable Concurrent Computing Using Hybrid Program Analysis*. NSF. $354,591. 08/2011-07/2014.
- Sole PI, *Towards Scalable Error Detection for Parallel Software Systems on Emerging Computing Platforms*. NSF CAREER Award. $450,495. 06/2011-05/2016.
- Sole PI, *Establishing A CUDA Teaching Center at the University of Wyoming*. NVIDIA. $4,275 in cash and $4,600 in GPU donation. 2011.
- PI, *Competitive Graduate Assistant*, with James Caldwell and Jerry Hamann (Co-PIs). University of Wyoming. $44,030 (one graduate assistantship). 08/2011 - 05/2013.
- Sole PI, *EWSI-UW Curriculum Improvement Grant*. University of Wyoming. $6,500. 2011.
- PI, at Computer Science, *Addressing the Computational Challenges of Time-Lapse, Full-Wave Seismic Imaging Using Hybrid Cluster of GPUs and CPUs*, with Po Chen (Department of Geology and Geophysics, PI at Geophysics). School of Energy Resources at the University of Wyoming. $114,880 (two graduate assistantships). 08/2011 - 08/2013.
- Sole PI, *Enhancing the Research and Teaching of HPC Software System*. NCAR-CISL, Research and Supercomputing Visitor Program. $2,400. 2010.
- PI, *Enabling Large-Scale, High-Resolution, and Real-Time Earthquake Simulations on Petascale Parallel Computers*, with Po Chen (Dept of Geology and Geophysics, Co-PI). NSF. $38,610. 10/2009-09/2013.
- Co-PI, *Acquisition of Graphic-Processing-Units (GPUs) to Upgrade the CPU Cluster at University of Wyoming*, with Po Chen (Dept of Geology and Geophysics, PI) and Manchung Yeung (Dept of Mathematics, Co-PI). NSF. $74,101. 09/2009-09/2010.
- Sole PI, *Accelerating Utilization of TeraGrid at the University of Wyoming*. NSF TeraGrid Pathways Fellowship. $8,500. 2009.
- PI, at Computer Science, *Addressing the Computational Challenges of Time-Lapse, Full-Wave Seismic Imaging Using Hybrid Cluster of GPUs and CPUs*, with Po Chen (Department of Geology and Geophysics, PI at Geophysics). School of Energy Resources at the University of Wyoming. $124,588 (two graduate assistantships). 08/2009 - 08/2011.
- PI, *Continuously Monitoring and Checking Software in the Era of Multicore Systems*, with Zijiang Yang (Western Michigan University, Co-PI at subcontract). Office of Naval Research. $142,965. 04/2009 - 12/2011.
- Sole PI, *Combined Static and Dynamic Analysis of Concurrency Errors for Critical Software*. Wyoming NASA Space Faculty Research Grant. $15,000. 2007-2008.

Publications[1]

Ph.D. Dissertation

- **Liqiang Wang**. *Analysis of synchronization errors for multi-threaded programs.* Stony Brook University, Stony Brook, NY, Aug. 2006. Advisor: Scott D. Stoller.

Journal Publications

[1] Kelly Stevens, Trenton Marsh, Chelcee Pangerl, Alexandra Silio, Zhihua Qu, Yue Ge, **Liqiang Wang**, Sanam Aksha, Herbert Longenecker, Christopher Emrich. Reimagining urban resilience and education hubs using a community-engaged, equity-centered approach. In *Progress in Disaster Science*, Volume 26, April 2025, Elsevier.

[2] Ying Ma, Owen Burns, Mingqiu Wang, Gang Li, Nan Du, Laurent El Shafey, **Liqiang Wang**, Izhak Shafran, and Hagen Soltau. Knowledge Graph Reasoning with Self-supervised Reinforcement Learning. In *IEEE Transactions on Audio, Speech and Language Processing*. 2025. IEEE Press.

[3] Zijian Chen, Hong Zhang, Miao Wang, **Liqiang Wang**, and Lei Zhang. Onboard Edge Computing: Optimizing Resource Allocation and Offloading in Mobile Scenarios. In *IEEE Internet of Things Journal*, Volume 12, Issue 1, Page:345-361, January 2025. IEEE.

[4] Lei Zhang, Miao Wang, **Liqiang Wang**, Zijian Chen, and Hong Zhang. Optimizing vehicle edge computing task offloading at intersections: a fuzzy decision-making approach. In *the Journal of Supercomputing*, volume 81, 2025. Springer.

[5] Yang Gao†, Quan Gang, Soamar Homsi, Wujie Wen, and **Liqiang Wang**. Secure and Efficient General Matrix Multiplication On Cloud Using Homomorphic Encryption. In *Journal of Supercomputing*. Volume 80, pages 26394âĂŞ26434, Springer, 2024

[6] Ehsan Kazemi† and **Liqiang Wang**. Efficient zeroth-order proximal stochastic method for nonconvex nonsmooth black-box problems. In *Journal of Machine Learning* (Impact Factor: 7.5). Vol 113, Pages 97-120. January 2024. Springer. https://doi.org/10.1007/s10994-023-06409-7

[7] Minquan Wang, Siyang Lu†, Sizhe Xiao, Dongdong Wang†, Xiang Wei†, Ningning Han, and **Liqiang Wang**. An Unsupervised Gradient-Based Approach for Real-Time Log Analysis From Distributed Systems. In *International Journal of Cooperative Information Systems* (Impact Factor: 1.5), June 2024. Volume 33, Issue 02. World Scientific Publishing. https://doi.org/10.1142/S0218843023500181

[8] Rongjie Yu, Lei Han, Mohamed Abdel-Aty, **Liqiang Wang**, Zihang Zou†. Improving model robustness of traffic crash risk evaluation via adversarial mix-up under traffic flow fundamental diagram. In *Accident Analysis & Prevention* (impact factor 5.9), Volume 194, January 2024. Elsevier. http://dx.doi.org/10.1016/j.aap.2023.107360

[1] All publications, including journal, conference, and workshop, are peer-reviewed except for the Ph.D. thesis.
† Students under Dr. Wang's supervision.

[9] Ehsan Kazemi†, Fariborz Taherkhani, **Liqiang Wang**. On Complementing Unsupervised Learning with Uncertainty Quantification. In *Pattern Recognition Letters* (Impact Factor 5.1), Volume 176, December 2023, Pages 69-75. Elsevier. https://doi.org/10.1016/j.patrec.2023.10.023

[10] Yingru Li, Shunpu Zhang, **Liqiang Wang**, Guoqing Lu, Ruth Pfeiffer, and Zihang Zou†. The Association of Supplemental Nutrition Assistance Program Participation and Food Insufficiency among Households with Children in the United States during COVID-19. In *The Journal of Nutrition* (impact factor 4.2). October 2023. Elsevier. https://doi.org/10.1016/j.tjnut.2023.08.020

[11] Weidong Wang†, Dian Li, Wangda Luo, Yujian Kang, and **Liqiang Wang**. Anthropomorphic diagnosis of runtime hidden behaviors in OpenMP multi-threaded applications. In *Journal of Parallel and Distributed Computing* (Impact Factor: 3.8). Volume 177, July 2023, Pages 17-27. https://doi.org/10.1016/j.jpdc.2023.02.012. Elsevier.

[12] Zidi Zhao, Hong Zhang†, **Liqiang Wang**, and Haijun Huang. A Multi-model Edge Computing Offloading Framework for Deep Learning Application Based on Bayesian Optimization. In *IEEE Internet of Things Journal* (Impact Factor: 11.1). May 2023. IEEE Press. http://dx.doi.org/10.1109/JIOT.2023.3280162

[13] Ehsan Kazemi†, Fariborz Taherkhani, and **Liqiang Wang**. Semisupervised Learning for Noise Suppression Using Deep Reinforcement Learning of Contrastive Features. In *IEEE Sensors Letters* (Impact Factor: 2.8). Volume 7, Issue 4, April 2023. IEEE Press. http://dx.doi.org/10.1109/LSENS.2023.3264998

[14] Siyang Lu†, Mingquan Wang, Dongdong Wang†, Xiang Wei†, Sizhe Xiao, Zhiwei Wang, Ningning Han, and **Liqiang Wang**. Black-box Attacks Against Log Anomaly Detection with Adversarial Examples. In *Information Sciences* (Impact Factor: 8.1). Volume 619, January 2023, Pages 249-262. https://doi.org/10.1016/j.ins.2022.11.007.

[15] Weiwei Xing, Jie Yao†, Zixia Liu†, Weibin Liu, Shunli Zhang, and **Liqiang Wang**. Contrastive JS: A Novel Scheme for Enhancing the Accuracy and Robustness of Deep Models. In *IEEE Transactions on Multimedia* (Impact Factor: 7.3). December 2022. IEEE. http://dx.doi.org/10.1109/TMM.2022.3232030

[16] Ehsan Kazemi†, Thomas Kerdreux, **Liqiang Wang**. Minimally Distorted Structured Adversarial Attacks. In *International Journal of Computer Vision* (Impact Factor: 19.5), October 2022. Springer. https://doi.org/10.1007/s11263-022-01701-w

[17] Estee Y. Cramer, et al. The United States COVID-19 Forecast Hub dataset. In *Scientific Data* (Impact Factor: 8.5). 9, Article number: 462 (2022). https://doi.org/10.1038/s41597-022-01517-w.

[18] Jie Yao†, Bingbing Rao†, Weiwei Xing, **Liqiang Wang**. Bug-Transformer: Automated Program Repair Using Attention-Based Deep Neural Network. In *Journal of Circuits, Systems and Computers (JCSC)* (Impactor Factor: 1.5), Vol 31 No. 11, July 2022. World Scientific Publishing. https://doi.org/10.1142/S0218126622502103

[19] Rongjie Yu, Ruici Zhang, Haoan Ai, **Liqiang Wang**, Zihang Zou†. Personalized driving assistance algorithms: Case study of federated learning based forward collision warning. In *Accident Analysis & Prevention* (Impact Factor: 4.993). Volume 168, April 2022. Elsevier. https://doi.org/10.1016/j.aap.2022.106609

[20] Weiwei Xing, Yuxiang Yang†, Shunli Zhang, Qi Yu†, and **Liqiang Wang**. NoisyOTNet: A Robust Real-Time Vehicle Tracking Model for Traffic Surveillance. In *IEEE Transactions on Circuits and Systems for Video Technology* (Impact Factor: 4.133). Volume: 32, Issue: 4, April 2022. IEEE. http://dx.doi.org/10.1109/TCSVT.2021.3086104

[21] Yao Jie†, Dongdong Wang†, Hao Hu†, Weiwei Xing, and **Liqiang Wang**. ADCNN: Towards Learning Adaptive Dilation for Convolutional Neural Networks. In *Pattern Recognition* (Impact Factor: 7.74). Volume 123, March 2022. Elsevier. http://dx.doi.org/10.1109/TCSVT.2021.3086104

[22] Dongdong Wang†, Qingyang Liu, Dazhong Wu, and **Liqiang Wang**. Meta Domain Generalization for Smart Manufacturing: Tool Wear Prediction with Small Data. In *Journal of Manufacturing Systems* (Impact Factor: 8.63). Volume 62, Pages 441-449, January 2022. Elsevier. https://doi.org/10.1016/j.jmsy.2021.12.009

[23] Jie Yao†, Weiwei Xing, Dongdong Wang†, Jintao Xing, **Liqiang Wang**. Active Dropblock: A New Method to Enhance Deep Model Accuracy and Robustness. In *Neurocomputing* (Impact Factor: 4.438). September 2021. Elsevier. https://doi.org/10.1016/j.neucom.2021.04.101

[24] Yuxiang Yang†, Weiwei Xing, Dongdong Wang†, Shunli Zhang, Qi Yu†, **Liqiang Wang**. AEVRNet: Adaptive Exploration Network with Variance Reduced Optimization for Visual Tracking. In *Neurocomputing* (Impact Factor: 4.438). August 2021. Elsevier. https://doi.org/10.1016/j.neucom.2021.03.118

[25] Rongjie Yu, Yiyun Wang, Zihang Zou†, **Liqiang Wang**. Convolutional neural networks with refined loss functions for the real-time crash risk analysis. In *Transportation Research Part C: Emerging Technologies* (Impact Factor: 6.077). Vol 119. October, 2020. Elsevier. https://doi.org/10.1016/j.trc.2020.102740

[26] Jun Wang†, Weibin Liu, Weiwei Xing, **Liqiang Wang**, and Shunli Zhang. Attention Shake Siamese Network with Auxiliary Relocation Branch for Visual Object Tracking. In *Neurocomputing* (Impact Factor: 4.438). Volume 400, 4 August 2020, Pages 53-72. Elsevier. https://doi.org/10.1016/j.neucom.2020.02.120

[27] Hong Zhang†, Hai Huang, and **Liqiang Wang**. Meteor: Optimizing Spark-on-Yarn for Short Applications. In *Future Generation Computer Systems (FGCS)* (Impact Factor: 6.125), Volume 101, December 2019, Pages 262-271. Elsevier. https://doi.org/10.1016/j.future.2019.05.077

[28] Wingyan Chung, Bingbing Rao†, and **Liqiang Wang**. Interaction Models for Detecting Nodal Activities in Temporal Social Media Networks. In *ACM Transactions on Management Information System* (Impact Factor: 1.5), 2019. ACM.https://doi.org/10.1145/3365537

[29] JianYing Jiao, Ye Zhang, and **Liqiang Wang**. A New Inverse Method for Contaminant Source Identification under unknown Solute Transport Boundary Conditions. In *Journal of Hydrology* (Impact Factor: 4.500) , Volume 577, October 2019. Elsevier. https://doi.org/10.1016/j.jhydrol.2019.123911

[30] Siyang Lu†, Xiang Wei†, Bingbing Rao†, Byungchul Tak, Long Wang, and **Liqiang Wang**. LADRA: Log-Based Abnormal Task Detection and Root-Cause Analysis in Big Data Processing with Spark. In *Future Generation Computer Systems (FGCS)*(Impact Factor: 6.125), 2019. Elsevier. https://doi.org/10.1016/j.future.2018.12.002

[31] Wei Lu, Lei Chen†, **Liqiang Wang**, Haitao Yuan, Weiwei Xing, Yong Yang†. NPIY: A Novel Partitioner for Improving MapReduce Performance. In *Journal of Visual Languages and Computing* (Impact Factor: 2.0),Volumes 46, 2018, Pages 1-11. Elsevier. https://doi.org/10.1016/j.jvlc.2018.04.001

[32] Weidong Wang†, Zhangqin Huang, **Liqiang Wang**. ISAT: An intelligent Web service selection approach for improving reliability via two-phase decisions. In *Information Sciences*(Impact Factor: 5.91), Volumes 433-434, Pages 255-273, April 2018. Elsevier. https://doi.org/10.1016/j.ins.2017.12.048

[33] Lei Chen†, Wei Lu, Ergude Bao, **Liqiang Wang**, Weiwei Xing, Yuanyuan Cai. Naive Bayes Classifier Based Partitioner for MapReduce. In *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, 101(5), pp. 778-786, 2018. Japan. https://doi.org/10.1587/TRANSFUN.E101.A.778

[34] Yong Yang†, Wei Lu, Weiwei Xing, **Liqiang Wang**, Xiaoping Che, and Lei Chen†. An Algorithm for Detecting and Resolving Deadlocks in Mobile Agent Systems. In *Journal of Visual Languages and Computing* (Impact Factor: 2.0), Volume 42, October 2017, Pages 23-30. Elsevier. https://doi.org/10.1016/j.jvlc.2017.08.002

[35] Wei Lu, Yong Yang†, **Liqiang Wang**, Weiwei Xing, Xiaoping Che, and Lei Chen†. A Fault Tolerant Election-based Deadlock Detection Algorithm in Distributed Systems. In *Software Quality Journal* (Impact Factor: 1.48), June 2017. Springer. https://doi.org/10.1007/s11219-017-9379-1

[36] Wei Lu, Weidong Wang†, Ergude Bao, **Liqiang Wang**, Weiwei Xing, and Yue Chen. FAQS: Fast web service composition algorithm based on QoS-aware sampling. In *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, 99-A(4), pp. 826-834, 2016. Japan. http://dx.doi.org/10.1587/transfun.E99.A.826

[37] Ping Guo†, and **Liqiang Wang**. Accurate Cross-Architecture Performance Modeling for Sparse Matrix-Vector Multiplication (SpMV) on GPUs. In *Concurrency and Computation: Practice and Experience* (Impact Factor: 1.536). Volume 27, Issue 13, September 2015, Pages 3281âĂŞ3294. Wiley Press. https://doi.org/10.1002/cpe.3217

[38] Wei Lu, Yuanyuan Cai, **Liqiang Wang**, and Weiwei Xing. Cloud Computing Research Analysis Using the Bibliometric Method. In *International Journal of Software Engineering and Knowledge Engineering* (Impact Factor: 1.47), Volume 25, Issue 03, April 2015. World Scientific Publishing. https://doi.org/10.1142/S0218194015400203

[39] Ping Guo†, **Liqiang Wang**, and Po Chen. A Performance Modeling and Optimization Analysis Tool for Sparse Matrix-Vector Multiplication on GPUs. In *IEEE Transactions on Parallel and Distributed Systems* (Impact Factor: 5.1), Vol. 25, no. 5, pp. 1112-1123, May 2014. IEEE Press. https://doi.org/10.1109/TPDS.2013.123

[40] Dawei Mu, Po Chen, and **Liqiang Wang**, Accelerating the Discontinuous Galerkin Method for Seismic Wave Propagation Simulations Using Multiple GPUs with CUDA and MPI. In *Earthquake Science* (Impact Factor: 0.36),Volume 26, Issue 6, pp 377-393, December 2013. Springer. https://doi.org/10.1007/S11589-013-0047-7

[41] Po Chen, En-Jui Lee, and **Liqiang Wang**, A Cloud-based Synthetic Seismogram Generator Implemented Using Windows Azure. In *Earthquake Science* (Impact Factor: 0.36), Volume 26, Issue 5, pp 321-329, October 2013. Springer. https://doi.org/10.1007/S11589-013-0038-8

[42] En-Jui Lee, He Huang†, John M. Dennis, Po Chen and **Liqiang Wang**, An Optimized Parallel LSQR Algorithm for Seismic Tomography. In *Computers and Geosciences* (Impact Factor: 3.34), Volume 61, Pages 184-197, 2013. Elsevier. https://doi.org/10.1016/j.cageo.2013.08.013

[43] Dawei Mu, Po Chen, and **Liqiang Wang**. Accelerating the Discontinuous Galerkin Method for Seismic Wave Propagation Simulations Using the Graphic Processing Unit (GPU): Single-GPU Implementation. In *Computers and Geosciences* (Impact Factor: 3.34), Volume 51, February 2013, Pages 282-292. Elsevier. https://doi.org/10.1016/j.cageo.2012.07.017

[44] Qichang Chen†, **Liqiang Wang**, and Zijiang Yang. HEAT: A Combined Approach for Thread Escape Analysis. In *International Journal of Systems Assurance Engineering and Management*, Volume 2, Number 2, pages 135-143, 2011. Springer. https://doi.org/10.1007/s13198-011-0069-2

[45] En-Jui Lee, Po Chen, Thomas Jordan, and **Liqiang Wang**. Rapid Centroid Moment Tensor (CMT) Inversion in a Three-Dimensional Earth Structure Model for Earthquakes in Southern California. In *Geophysical Journal International* (Impact Factor: 3.83), Volume 186, Issue 1, pages 311-330, July 2011. Wiley. https://doi.org/10.1111/j.1365-246X.2011.05031.x

[46] Dharma Teja Nukarapu, Bin Tang, **Liqiang Wang**, and Shiyong Lu. Data Replication in Data Intensive Scientific Applications With Performance Guarantee. In *IEEE Transactions on Parallel and Distributed Systems* (Impact Factor: 5.1), Volume 22, Issue 8, pages 1299 - 1306, August 2011. IEEE Press. https://doi.org/10.1109/TPDS.2010.207

[47] R. Agarwal, S. Bensalem, E. Farchi, K. Havelund, Y. Nir-Buchbinder, S. D. Stoller, S. Ur, and **L. Wang**. Detection of Deadlock Potentials in Multi-Threaded Programs. In *IBM Journal of Research and Development* (Impact Factor: 1.27), 54(5), pages 1-15, September/October 2010. https://doi.org/10.1147/JRD.2010.2060276

[48] Qichang Chen†, **Liqiang Wang**, Ping Guo†, and He Huang†. Analyzing Concurrent Programs for Potential Programming Errors (book chapter). In *Modern Software Engineering Concepts and Practices*. Pages 380-415. IGI Global. 2010. https://doi.org/10.4018/978-1-60960-215-4.ch016

[49] **Liqiang Wang**, Shiyong Lu, Xubo Fei, Artem Chebotko, H. Victoria Bryant†, and Jeffrey Ram. Atomicity and Provenance Support for Pipelined Scientific Workflows. In *Journal of Future Generation Computer Systems (FGCS)* (Impact Factor: 6.125). Volume 25, Issue 5, May 2009, pages 568-576. Elsevier Science Inc. https://doi.org/10.1016/j.future.2008.06.007

[50] **Liqiang Wang** and Scott D. Stoller. Runtime Analysis of Atomicity for Multi-threaded Programs. In *IEEE Transactions on Software Engineering* (Impact Factor 6.11), Volume 32, Issue 2, pages 93-110, Feb. 2006. IEEE Press. https://doi.org/10.1109/TSE.2006.1599419

[51] R.D. Cowan, Alan McKendall Jr., Ali Mili, L. Yang, **L. Wang**, D. Chen, V. Janardhana, and T. Spencer. Software Engineering Technology Watch. In *Information Sciences* (Impactor Factor: 5.91), 140(3-4), pages 195-215. Elsevier Science Inc., 2002. https://doi.org/10.1016/S0020-0255(01)00171-2

Conference and Workshop Publications

[52] Li Ren, Chen Chen, **Liqiang Wang**, and Kien A. Hua. DA-VPT: Semantic-Guided Visual Prompt Tuning for Vision Transformers. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition* (**CVPR**). Nashville, TN, USA. 2025.

[53] Shenyang Liu, Saleh Almohaimeed, and **Liqiang Wang**. REFORMER: A ChatGPT-Driven Data Synthesis Framework Elevating Text-to-SQL Models. In *IEEE International Conference on Machine Learning and Applications (ICMLA)*, 18-20 Dec. 2024. IEEE.

[54] Shenyang Liu, Yang Gao, Shaoyan Zhai, and **Liqiang Wang**. StyleRec: A Benchmark Dataset for Prompt Recovery in Writing Style Transformation. In *IEEE International Conference on Big Data (BigData)*, pages=1678–1685, 2024. IEEE.

[55] May Alsofyani† and *Liqiang Wang*. Detecting Data Races in OpenMP with Deep Learning and Large Language Models. In *International Conference on Parallel Processing* (**ICPP**) Workshops. August 2024.

[56] Peng Wu, Hong Zhang†, Miao Wang, **Liqiang Wang**, Meng Wang and Mingyang Lv. Community-Aware Graph Debiased Contrastive Representation Learning. In *International Joint Conference on Neural Networks (IJCNN)*. Yokohama, Japan. July 2024.

[57] Mingyang Lv, Hong Zhang†, Miao Wang, **Liqiang Wang** and Peng Wu. Democratic Learning: A Distributed Machine Learning Framework with Collaborative Voting and Model Pruning for Privacy and Security. In *International Joint Conference on Neural Networks (IJCNN)*. Yokohama, Japan. July 2024.

[58] Saleh Almohaimeed†, Saad Almohaimeed and **Liqiang Wang**. GAT-SQL: An Advanced Prompt Engineering Approach for Effective Text-to-SQL Interactions. In *IEEE Congress on Evolutionary Computation (CEC)*. Yokohama, Japan. July 2024.

[59] Saleh Almohaimeed†, Saad Almohaimeed, Mansour Al Ghanim, and **Liqiang Wang**. Ar-Spider: Text-to-SQL in Arabic. In *the 39th ACM/SIGAPP Symposium on Applied Computing (SAC)*. ACM. April, 2024.

[60] Li Ren, Chen Chen, **Liqiang Wang**, Kien A. Hua. Learning Semantic Proxies from Visual Prompts for Parameter-Efficient Fine-Tuning in Deep Metric Learning. In *The International Conference on Learning Representations* (**ICLR**). Vienna, Austria. May 2024.

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  - – Journal of Security and Communication Networks, Wiley (Guest), 2018.
  - – Journal of Sustainability, MDPI (Guest), 2020-2021.
- Chair or Senior Members of Conference/Workshop Program Committees
  - ◇ Registration Chair, IEEE International Conference on Big Data. 2021.
  - ◇ Program Chair, the 5th Workshop on Benchmarking, Performance Tuning and Optimization for Big Data Applications (BPOD), 2021.
  - ◇ Advisory Committee member, IEEE International Conference on Pervasive, Intelligence and Computing (PICom). Nov, 2019, 2020, 2021.
  - ◇ Executive Chair, The 16th IEEE International Conference on Pervasive, Intelligence and Computing (PICom). Nov, 2018.
  - ◇ Doctoral Symposium Chair, IEEE Intl. Conference on Cloud Engineering (IC2E). 2018.
  - ◇ Senior Program Committee, IEEE International Conference on Big Data. 2017-2021.
  - ◇ Chair, The 15th IEEE International Conference on Pervasive, Intelligence and Computing (PICom). Nov, 2017.
  - ◇ Local Arrangement Chair, The 8th International Green and Sustainable Computing Conference. (IGSC). 2017.
  - ◇ Application Track Chair, IEEE International Conference on Web Services (ICWS). 2017.
  - ◇ Track Chair, the 9th IEEE International Conference on Cloud Computing. June 27 - July 2, 2016, San Francisco, USA.
  - ◇ Short Paper Chair, the 5th IEEE International Congress on Big Data. June 27 - July 2, 2016, San Francisco, USA
  - ◇ Chair, IEEE International Workshop on Scientific Workflows and Big Data Sciences (SWF). 2010, 2013, 2014.

- ◇ Chair, the 2nd International Conference on Information Technology and Software Engineering, 2014. Beijing, China.
- ◇ Chair, IEEE Service Cup. 2012, 2013.

- Program Committee Member of Selected Conferences/Workshops
  - ◇ AAAI Conference on Artificial Intelligence. 2020, 2021, 2022.
  - ◇ International Conference on Learning Representations (ICLR). 2022.
  - ◇ IEEE International Conference on Machine Learning (ICML). 2020, 2021, 2022.
  - ◇ Intl Conference on Neural Information Processing Systems (NeurIPS). 2020, 2021, 2022.
  - ◇ IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR). 2020, 2021, 2022.
  - ◇ IEEE/CVF International Conference on Computer Vision (ICCV). 2021.
  - ◇ European Conference on Computer Vision (ECCV). 2022.
  - ◇ International Conference on Acoustics, Speech, and Signal Processing (ICASSP). 2021.
  - ◇ IEEE International Conference on Big Data. 2013-2021.
  - ◇ IEEE International Conference on Cloud Computing. 2016-2022.
  - ◇ IEEE International Conference on Web Services (ICWS). 2013-2021.
  - ◇ IEEE International Conference on Services Computing. 2020.
  - ◇ 18th International Workshop on Data Mining in Bioinformatics (BIOKDD). 2020.
  - ◇ The IEEE International Congress on Internet of Things (ICIOT). 2017-2020.
  - ◇ The 15th International Conference on eScience. 2019.
  - ◇ IEEE International Workshop on Scalable Cloud Data Management (SCDM). 2013-2019.
  - ◇ The IEEE Graph Computing (GC). 2019.
  - ◇ The IEEE International Symposium on Service-Oriented System Engineering. 2017, 2018, 2019.
  - ◇ The International Workshop on Programming Models and Applications for Multicores and Manycores (PMAM). 2014-2021.
  - ◇ The 5th Annual Conference on machine Learning, Optimization and Data science (LOD). 2019-2020.
  - ◇ IEEE International Conference on Congnitive Computing. 2017.
  - ◇ IEEE International Congress on Big Data. 2016-2017.
  - ◇ IEEE 11th International Conference on Frontier of Computer Science and Technology (FCST) 2017.
  - ◇ The ASE Workshop on Specification, Comprehension, Testing and Debugging of Concurrent Programs. Singapore, Singapore, 3-7 September, 2016.
  - ◇ The 3rd International Workshop on Internet of Things Technologies. Melbourne, Australia. December 14-17, 2015.
  - ◇ International Workshop on Trustworthy Software Systems. Helsinki, Finland. August, 2015.

- ◇ The International Workshop on Advances in High-Performance Computational Earth Sciences: Applications and Frameworks. (IHPCES 2011-2017).
- ◇ The International Workshop on Analytics Services on the Cloud. Germany. 12/2013.
- ◇ The 2nd International Workshop on Grid Friendly Computing (GFC). Arlington, VA. June 2013.
- ◇ The International Workshop on Workflow Models, Systems, Services and Applications in the Cloud (CloudFlow). 2012-2013.
- ◇ The IEEE International Workshop on Scientific Workflows (SWF 2007, 2008, 2009, 2011, 2012).
- ◇ The 12th IEEE International Conference on Scalable Computing and Communications (ScalCom-2012). Dec. 2012.
- ◇ The IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC, 2009-2011).
- ◇ The 14th IEEE International Conference on Computational Science and Engineering (CSE-2011). August 24-26, 2011.
- ◇ The 5th Annual IEEE Service Cup. 2010.
- ◇ The 25th Annual ACM Symposium on Applied Computing (SAC), the Software Engineering Track. 2010.
- ◇ The 3rd IEEE International Workshop on Scientific Workflows and Business Workflow Standards in e-Science (SWBES 2008).

- Journal Reviewer for:
  - ◇ The above conferences.
  - ◇ IEEE Transactions on Parallel and Distributed Systems. IEEE Transactions on Pattern Analysis and Machine Intelligence.
  - ◇ IEEE Transactions on Computers.
  - ◇ IEEE Transactions on Cloud Computing.
  - ◇ IEEE Transactions on Software Engineering.
  - ◇ IEEE Transactions on Mobile Computing.
  - ◇ IEEE Transactions on Automation Science and Engineering.
  - ◇ IEEE Transactions on Industrial Informatics.
  - ◇ IEEE Transactions on Big Data.
  - ◇ IEEE Access.
  - ◇ PLOS.
  - ◇ Neural Computing and Applications, Springer.
  - ◇ Journal of Future Generation Computer Systems (FGCS), Elsevier.
  - ◇ Journal of Parallel and Distributed Computing (JPDC), Elsevier.
  - ◇ Journal of Neurocomputing, Elsevier.
  - ◇ Journal of Measurement, Elsevier.
  - ◇ Journal of Manufacturing Systems, Elsevier.

- ◇ Journal of Artificial Intelligence In Medicine, Elsevier
- ◇ Journal of Supercomputing, Springer.
- ◇ Journal of Data Science and Engineering, Springer.
- ◇ International Journal on Software Tools for Technology Transfer (STTT), Springer.
- ◇ Concurrency and Computation: Practice and Experience.
- ◇ Journal of Sensors. MDPI.
- ◇ Science of Computer Programming.
- ◇ Journal of Zhejiang University Science C (Computers & Electronics).
- ◇ Journal of Manufacturing Systems, Elsevier.

Teaching

University of Central Florida

- Fall 2024, (CAP 5610) Machine Learning, 3 credits. 150 students.
- Fall 2024, (COP 6526) Parallel and Cloud Computation, 3 credits. 38 students.
- Spring 2024, (CAP 5610) Machine Learning, 3 credits. 117 students.
- Spring 2024, (CAP 4630) Artificial Intelligence, 3 credits. 159 students.
- Fall 2023, (CAP 5610) Machine Learning, 3 credits. 146 students.
- Fall 2023, (COP 6526) Parallel and Cloud Computation, 3 credits. 40 students.
- Fall 2022, (CAP 4630) Artificial Intelligence, 3 credits, 140 students.
- Fall 2022, (COP 6526) Parallel and Cloud Computation, 3 credits, 35 students.
- Spring 2022, (CAP 6640) Computer Understanding of Natural Language, 3 credits, 50 students.
- Spring 2022, (CDA 5121) High-Performance Computing and Programming, 3 credits, 15 students.
- Fall 2021, (CAP 4630) Artificial Intelligence, 3 credits, 197 students.
- Fall 2021, (COP 6526) Parallel and Cloud Computation, 3 credits, 35 students.
- Spring 2021, (CAP 4630) Artificial Intelligence, 3 credits, 225 students.
- Spring 2021, (CDA 5121) High-Performance Computing and Programming, 3 credits, 15 students.
- Fall 2020, (CAP 4630) Artificial Intelligence, 3 credits, 250 students.
- Fall 2020, (COP 6526) Parallel and Cloud Computation, 3 credits, 38 students.
- Spring 2020, (COP 5611) Operating Systems Design Principles, 3 credits, 12 students.
- Fall 2019, (COP 6526) Parallel and Cloud Computation, 3 credits, 33 students.

- Spring 2019, (COP 4600) Operating Systems, 3 credits, 186 students.
- Spring 2019, (COP 5611) Operating Systems Design Principles, 3 credits, 26 students.
- Fall 2018, (COP 6526) Parallel and Cloud Computation, 3 credits, 22 students.
- Spring 2018, (CDA 5121) High-Performance Computing and Programming, 3 credits, 11 students.
- Spring 2018, (COP 5611) Operating Systems Design Principles, 3 credits, 20 students.
- Fall 2017, (COP 6526) Parallel and Cloud Computation, 3 credits, 13 students.
- Spring 2017, (CIS4932C) Cloud Computing Management, 3 credits, 24 students.
- Fall 2016, (CNT 3004) Computer Network Concepts, 3 credits, 99 students.
- Spring 2016, (CIS4932C) Cloud Computing Management, 3 credits, 24 students.
- Fall 2015, (CNT 3004) Computer Network Concepts, 3 credits, 70 students.

University of Wyoming

- Spring 2015, (COSC 4010 & COSC 5010) Big Data and Cloud Computing, 3 credits, 25 students.
- Fall 2014, (COSC 4010 & COSC 5010) Introduction to High-Performance Computing, 3 credits, 18 students.
- Spring 2014, (COSC 4740) Operating Systems Design, 4 credits. 28 students.
- Fall 2013, (COSC 4010 & COSC 5010) Introduction to High-Performance Computing, 3 credits, 20 students.
- Fall 2013, (COSC 4740) Operating Systems Design, 4 credits. 12 students.
- Spring 2012, (COSC 4740) Operating Systems Design, 4 credits. 7 students.
- Spring 2012, (COSC 5000) Computer Science Seminar, 1 credit, 10 students.
- Fall 2011, (COSC 4740) Operating Systems Design, 4 credits. 11 students.
- Fall 2011, (COSC 4010 & COSC 5010) Introduction to High-Performance Computing, 3 credits, 11 students.
- Spring 2011, (COSC 4740) Operating Systems Design, 4 credits, 8 students.
- Fall 2010, (COSC 4740) Operating Systems Design, 4 credits, 5 students.
- Fall 2010, (COSC 4010 & COSC 5010) Introduction to High-Performance Computing, 3 credits, 12 students.
- Spring 2010, (COSC 4740) Operating Systems Design, 4 credits, 8 students.
- Spring 2010, (COSC 5000) Computer Science Seminar, 1 credit, 4 students.

- Fall 2009, (COSC 4010 & COSC 5010) Introduction to High-Performance Computing, 3 credits, 12 students.
- Fall 2009, (COSC 4740) Operating Systems Design, 4 credits, 14 students.
- Spring 2009, (COSC 4740) Operating Systems Design, 4 credits, 6 students.
- Spring 2009, (COSC 5000) Computer Science Seminar, 1 credit, 3 students.
- Fall 2008, (COSC 4740) Operating Systems Design, 4 credits, 8 students.
- Fall 2008, (COSC 4785 & COSC 5785) Compiler Construction I & II, 3 credits, 7 students.
- Spring 2008, (COSC 4740) Operating Systems Design, 4 credits, 9 students.
- Spring 2008, (COSC 5000) Computer Science Seminar, 1 credit, 7 students.
- Fall 2007, (COSC 4760) Computer Networks, 3 credits, 14 students.
- Fall 2007, (COSC 5000) Computer Science Seminar, 1 credit, 9 students.
- Spring 2007, (COSC 4740) Operating Systems Design, 4 credits, 12 students.
- Spring 2007, (COSC 5000) Computer Science Seminar, 1 credit, 12 students.
- Fall 2006, (COSC 4760) Computer Networks, 3 credits, 17 students.

Students Supervised

Current Ph.D. Students (as their primary advisor)

[1] Zihang Zou (Ph.D. candidate, 08/2018-present)

[2] Yang Gao (Ph.D. candidate, 10/2020-present)

[3] Scott Piersall (Ph.D. candidate, 01/2021-present, Co-supervised with Dr. Elfayoumy, Sherif, University of North Florida)

[4] Shenyang Liu (Ph.D. candidate, 01/2021-present)

[5] Jacob Braun (Ph.D. candidate, 01/2024-present)

Ph.D. Graduated (as primary advisor)

[1] May Alsofyani (Ph.D., 03/2025). Multidimensional Approaches In Bug Detection For Parallel Programming And Text-to-code Semantic Parsing.

[2] Saleh Almohaimeed (Ph.D., 12/2024). Towards Robust and Accurate Text-To-Code Generation. Employment: King Saud University. .

[3] Yifan Ding (Ph.D., 03/2023). Representation Learning in Deep Neural Networks. Co-supervised with Dr. Boqing Gong. Employment: Amazon.

[4] Ehsan Kazemy (Ph.D., 03/2023). Towards Optimization and Robustification of Data-Driven Models. Employment: Postdoc at UC-Davis.

[5] Dongdong Wang (Ph.D., 01/2023). Improving deep neural network training with knowledge distillation. Employment: Postdoc at UCF.

[6] Bingbing Rao (Ph.D., 06/2022). Efficient graph-based computation and analytics. Employment: CitiBank.

[7] Zixia Liu (Ph.D., 04/2022). Towards More Efficient Collaborative Distributed Data Analysis and Learning. Employment: Assistant Professor, Anhui University of Technology, China.

[8] Muhammad Abdullah Jamal (Ph.D., 07/2021, Co-supervised with Dr. Boqing Gong). Visual Learning Beyond Human Curated Datasets. Employment: Intuitive Surgical, Inc.

[9] Yandong Li (Ph.D., 04/2021, UCF. Co-supervised with Dr. Boqing Gong). Learning Accurate and Robust Deep Visual Models. Employment: Google Research.

[10] Liheng Zhang (Ph.D., 05/2020, UCF. Co-supervised with Dr. Guojun Qi). Equivariance and Invariance for Robust Unsupervised and Semi-Supervised Learning. Employment: Microsoft.

[11] Siyang Lu (Ph.D. 08/2019, UCF). Detecting Anomalies from System Logs. Employment: Assistant Professor, Beijing Jiaotong University.

[12] Hao Hu (Ph.D., 05/2019, UCF. Co-supervised with Dr. Guojun Qi). Learning Robust Sequence Features via Dynamic Temporal Pattern Discovery. Employment: Research Scientist, Fxpal Inc.

[13] Hong Zhang (Ph.D., 07/2018, UCF). Dissertation topic "Towards High-Performance Big Data Processing Systems". Employment: Associate Professor, Hebei University, China.

[14] Hongyi Ma (Ph.D., 09/2010-08/2015, UWyo). Dissertation topic "Improving Reliability and Performance of High Performance Computing Applications". Employment: VMWare Inc.

[15] Ping Guo (Ph.D., 01/2009 - 08/2014, UWyo). Dissertation topic "Performance Prediction and Optimization for Sparse Matrix-Vector Multiplication (SpMV) on GPUs". Employment: Assistant Professor, Department of Computer Science, University of Illinois at Springfield.

[16] He Huang (Ph.D., 08/2009 - 08/2013, UWyo). Dissertation topic "Addressing Scalability and Resource Provisioning Problems for Scientific Applications on Parallel Platforms". Employment: Amazon.

[17] Qichang Chen (Ph.D., 08/2006-06/2011, UWyo). Dissertation topic "An Integrated Static and Dynamic Program Analysis Framework for Checking Concurrency-Related Programming Errors". Employment: Huawei Inc.

M.S. Graduated (as primary advisor)

[1] Chao Liang (M.S., 08/2015, UWyo) Thesis topic "Processing Seismic Inversion Problems Using Hadoop and Cloud Computing".

[2] Lisa M. Owen(M.S., 05/2015, UWyo). Thesis topic "Finding Your Keys With Android and iBeacons".

[3] Soumi Manna (M.S., 12/2014, UWyo). Thesis topic "Evaluating the Performance of the Community Atmosphere Model at High Resolutions".

[4] Vedaprakash Subramanian (M.S., 12/2011, UWyo). Thesis topic "Implementation of 3D Seismic Source Inversion and Synthetic Seismogram Generation on Windows Azure".

[5] Rory Jarrard (M.S., 06/2011, UWyo). Thesis topic "Detecting Concurrency Errors in OpenMP Programs Using Static Program Analysis".

[6] Hao Qian (M.S., 05/2011, UWyo). Thesis topic "The Design and Implementation of SWAT (Scientific Workflow for Adjoint Tomography)".

[7] Rajeswari Siloju (M.S., 05/2010, UWyo). Thesis topic "Sandbox-based Dynamic Branch Coverage Expansion for Detecting Concurrency Errors".

[8] Lei Wu (M.S., 07/2009, UWyo). Thesis topic "Parallelization and Implementation of ML(n)BiCGStab".

[9] Qichang Chen (M.S., 05/2009, UWyo). Thesis topic "HAVE: Detecting Atomicity Violations via Integrated Dynamic and Static Analysis".

[10] Hongjiang Li (M.S., 7/2008, UWyo). Thesis topic "Classify Atomicity Violation Warnings Using Machine Learning".

[11] Miranda Bryant (M.S., 7/2007, UWyo). Thesis topic "Meaningful Representation of Provenance in Scientific Workflow Systems".

[12] Victoria Bryant (M.S., 7/2007, UWyo). Thesis topic "Modeling Atomicity and Isolation in Scientific Workflow Systems".

[13] David A. Weiser (M.S., 7/2007, UWyo). Thesis topic "Hybrid Analysis of Multi-threaded Java Programs".

Other Alumni (Visiting Ph.D. students.)

- Jie Yao (Visiting Ph.D. candidate, 05/2019-09/2020)
- Yuxiang Yang (Visiting Ph.D. candidate, 08/2018-07/2019)
- Qi Yu (Visiting M.S. candidate, 12/2018-03/2019)
- Jun Wang (Visiting Ph.D. candidate, 11/2018-05/2019)
- Lei Chen (Visiting Ph.D. candidate, 04/2017-04/2018)
- Yong Yang (Visiting Ph.D. candidate, 04/2017-10/2017)
- Xiang Wei (Visiting Ph.D. candidate, 11/2016-11/17)
- Weidong Wang (Visiting Ph.D. candidate, 01/2013-01/15, UWyo)

Ph.D. Dissertation Committee in UCF

- Lei Han. Committee. 03/2025.
- Qianqian Jin, IN DEPTH ANALYTICS OF VEHICLE-VEHICLE AND VEHICLEPEDESTRIAN CONFLICTS ACROSS VARIOUS CONDITIONS. 03/2025.
- Li Ren. Modeling Data Metrics And Distributions For Representation And Efficient Transfer Learning. Computer Science. Committee. 02/2025.
- Kenneth Lamar. ADVANCES IN HIGH PERFORMANCE COMPUTING THROUGH CONCURRENT DATA STRUCTURES AND PREDICTIVE SCHEDULING. 06/2024.
- Qingyang Liu. UNDERSTANDING PROCESS-STRUCTURE-PROPERTY RELATIONSHIPS IN ADDITIVE MANUFACTURING THROUGH EXPERIMENTATION AND MACHINE LEARNING. 05/2024.
- Rui Yang. Advancing Medical Diagnostics: A Comprehensive Study Of Fundus Image Analysis Techniques. Big Data Analytics. 04/2024.
- Muhammad Hasan Maqbool. From Intent Detection To Recommendations: Leveraging Pretrained Language Models For Enhanced User Experiences. Computer Science. 04/2024.
- Dongjie Wang, Data-Centric AI: Taming AI-Ready Feature Space from Decision-Making to Generative AI Perspectives. Computer Science. 02/2024.
- Ankit Kumar Sharma. Optimizing Deep Neural Network Performance: Efficient Techniques for Training and Interference. Computer Science. 11/2023.
- Zixiang Zhou. Towards a robust and efficient deep neural network for the LiDAR point cloud perception. 11/2023
- Shengnan Hu, Exploring the Feasibility of ML Techniques in Recognizing Complex Human Activity. Computer Science. 10/2023.
- Wei Fan, Deep Time Series Modeling: From Distribution Regularity to Distribution Shift. Computer Science. 08/2023.
- Syed Mostaquim Ali. MS committee. Civil Engineering. 07/2023.
- Yifan Huang, Modeling Online Social Behavior with a Deep Network Learning Framework. School of Modeling, Simulation, and Training. Dissertation Defense. 7/2023.
- Taojiannan Yang, Towards Efficient and Effective Representation Learning for Image and Video Understanding. Dissertation Defense. 06/2023.
- Zerong Xi. From Human Behavior to Machine Behavior. Dissertation Defense 03/2023.
- Dongjie Wang. Dissertation Proposal 03/2023.
- Ramya Akula. Figurative - Toxic Language Detection in Social Media Content and Evaluation Metric for Abstractive and Extractive Summarization. Dissertation Defense in 11/2022.

- Aminollah Khormali. Deep Learning Methodologies for Misinformation Detection: From Adversarial Examples to Deepfakes. Dissertation Defense in 11/2022.
- Yuting Chen. Data Dimensionality Reduction Techniques: What Works With Machine Learning Models. PhD in Education. Dissertation Defense in 09/2022.
- Yebowen Hu. Ph.D Dissertation Committee. Computer Science. 08/2022.
- Sayyed Jaffar Ali Raza. Self Adaptive Reinforcement Learning for High-Dimensional Stochastic Systems with Application to Robotic Control. Dissertation Defense in 11/2021.
- Amr Hatem Ragaa Abdelraouf. Data-Driven Intelligent Transportation System Applications on Freeways. Dissertation Defense in 11/2021.
- Sharare Zehtabian. Human Behavior in Domestic Environments: Prediction and Applications. Computer Science. Dissertation Defense on 11/2021.
- Fereshteh Jafariakinabad. Machine Learning Techniques for Topic Detection and Authorship Attribution in Textual Data. Computer Science. Dissertation Defense on 11/2021.
- Qiang Li. Search Dimension Reduction based Reinforcement Learning for a Class of Dynamic Systems. Mechanical Engineering. Dissertation Defense on 04/2021.
- Sayyed Jaffar Ali Raza. Self Adaptive Reinforcement Learning for High-Dimensional Systems in Real-Time Stochastic Events with Application to Robotic Control. Computer Engineering. Dissertation Defense on 04/2021.
- Baogang Zhang. Robust Acceleration of Data-Centric Applications using Resistive Computing Systems. Computer Engineering. Dissertation Defense on 03/2021.
- Sangwoo Cho. Contextual Understanding of Sequential Data Cross Multi-Modalities. Computer Science. Dissertation Defense on 03/2021.
- Xin Li. Reconstruction of Bacterial Strain Genomes from Shotgun Metagenomic Reads. Computer Science. Dissertation Defense on 11/2020.
- Min Wang. Explore and Design Novel Structures for More Efficient and Better Deep Convolutional Neural Networks. Computer Science. Dissertation Defense on 03/2020.
- Yang Zhang. Learning Transferable Representations for Visual Recognition. Computer Science. Dissertation Defense on 03/2020
- Xiangling Kong. Color-Ratio Based Strawberry Plant Localization and Nutrition Deficiency Detection. Mechanical Engineering. Dissertation Defense on 06/2019.
- Dan Huang. Managing IO Resource for Co-Running Data Intensive Applications in virtual Clusters. Computer Engineering. Dissertation Defense on 04/2018.

SELECTED AWARDS AND HONORS

- UCF Mid-Career Award, 2020.
- Best Paper Award, the 3rd IEEE Conference on Cyber Science and Technology, 2018.

- IEEE Outstanding Leadership Award. 2018
- Castagne Faculty Fellow Award, University of Wyoming, 2013.
- NSF CAREER Award, 2011.
- NSF TeraGrid Fellowship, 2009.
- Best Paper Award, IBM Verification Conference, 2005.
- Swiger Endowed Fellowship, 2000-2001.
- Best Student Paper Award, the 14th National Database Conference of China, 1997.
- First class scholarships (Guanghua Prize and Procter & Gamble Prize), Sichuan University, 1996, 1997.
- Exemption for National Postgraduate Entrance Examination, 1995.
- Exemption for National College Entrance Examination, 1991.