VICTOR S. SHENG

Department of Computer Science
Texas Tech University
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RESEARCH INTERESTS

Data mining, machine learning, crowdsourcing, deep learning, data science, big data analytics, natural language processing, spatial database, information retrieval, data privacy and security, and decision support, and their applications in business, industry, medical informatics, and software engineering.

PROFESSIONAL EXPERIENCE

Associate Professor
Computer Science, Texas Tech University, USA August 2019 – present

Associate Professor
Computer Science, University of Central Arkansas, USA June 2015 – August 2019

Assistant Professor
Computer Science, University of Central Arkansas, USA August 2010 – May 2015

Visiting Assistant Professor
Computer Science, University of Central Arkansas, USA August 2009 – May 2010

Research Associate and NSERC Postdoctoral Fellow
Leonard N. Stern School of Business, New York University, USA September 2007 – August 2009

GRANTS

- MRI: Acquisition of a High-Performance Computing System for University of Central Arkansas, *National Science Foundation* (IIS-1726009), **Senior Personnel**, (2017 - 2020). $105,084.
- Bearscode: Robotics and Programming Grant. *UCA Foundation, Inc.* **PIs** (Dr. Hu, Dr. Wake, Dr. Hankins, and Dr. Sheng), $2,987.74 (2019-2020)
- Improving Data Quality and Data Mining Using Noisy Micro-Outsourcing. *National Science Foundation* (IIS-1115417), **PI**, $355,628 (2011 - 2019).
  - Five REU supplement awards from *National Science Foundation*, **PI**, $16,000×5=$80,000 (2012 - 2017, support undergraduate research).
  - One ROA supplement award from *National Science Foundation*, **PI**, $15,000 (2014 - 2015).
- REU Site: HIT@UCA: Applied Research in Health Information Technology, *National Science Foundation* (IIS-1062838), **Senior Personnel**, (2011 - 2014). $324,997.
- IBM grant, Co-PI ($200,000, PI: Foster Provost), 2008.
- NSERC Postdoctoral Fellowship (*Natural Sciences and Engineering Research Council of Canada*, like NSF in U.S., total $80,000), September 2007 – August 2009.

- NSERC Post-graduate Scholarship (total $63,000), May 2005 – April 2008.

HONOURS AND AWARDS

- ***Best Paper Award***, International Conference on Cloud Computing and Security (ICCCS 2018)
- ***Outstanding Contribution Award***, International Conference on Cloud Computing and Security (ICCCS 2018)
- American Men and Women of Science (AMWS), 2017
- Who's Who in Sciences Higher Education (WWSHE), 2017
- ***Best Student Paper Award Finalist***, *the Sixteenth International Conference on Web Information System Engineering (WISE 2015).*
- Elected as the IEEE senior member, 2014
- Dean's Merit, College of Natural Sciences and Mathematics, 2017, 2015, 2014
- Nominee of the Research, Scholarship and Creative Activity Award of University of Central Arkansas, 2015, 2014, 2013, 2012
- ***Best Paper Award***, 11th Industrial Conference on Data Mining (ICDM), 2011.
- ***Best Paper Award Runner-Up***, the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 2008.
- ***Google Student Award Winner***, the 3rd annual Machine Learning Symposium, 2008.
- *Best Presentation Award*, The University of Western Ontario Research in Computer Science Annual Conference, 2007.
- Student Travel Award, ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD07), 2007.
- Graduate Teaching Assistant Award Nominee, The University of Western Ontario, 2006 – 2007.
- Student Travel Award, International Conference on Machine Learning (ICML), 2006.
- Student Travel Award, American Association of Artificial Intelligence (AAAI), 2006.
- CS Publications Incentive Awards (*three times*), Department of Computer Science, The University of Western Ontario, 2004 – 2005, 2005 – 2006, 2006 – 2007 respectively.
- Nominee of Robert and Ruth Lumsden Fellowships in Science, The University of Western Ontario, 2006.
- ***Best Poster Award***, The UW and IEEE Kitchener-Waterloo Section Joint Workshop on Knowledge and Data Mining (2006), University of Waterloo, ON, Canada.
- Western Graduate Research Scholarship, The University of Western Ontario, 2005 – 2008.
- Special University Scholarship, The University of Western Ontario, 2004.
- Graduate Scholarship, University of New Brunswick, 2002 – 2003.
- Excellent Student Prizes (*twice*), Chongqing University, 1991 – 1992, 1989 – 1990.
- The first prizes (*seven times*) (outstanding academic achievement), Chongqing University,

1989 – 1993.

- The third prize of the mathematics contest (>3000 students), Chongqing University, 1990.

EDUCATION

Postdoctoral Fellow, Dept. of Information, Operations and Management Sciences,
Leonard N. Stern School of Business, New York University, USA September 2007 – August 2009

- Advisor: Foster Provost

Ph.D., Computer Science
The University of Western Ontario, London, Ontario, Canada August 2007

- Thesis Title: Cost-sensitive learning with data acquisition
- Advisor: Charles X. Ling

M.Sc., Computer Science
University of New Brunswick, Fredericton, New Brunswick, Canada December 2003

- Thesis Title: Learning weighted Naïve Bayes for accurate ranking
- Advisor: Huajie (Harry) Zhang

M.Sc.E., Computer Engineering
Soochow University, Suzhou, Jiangsu, China July 1999

- Thesis Title: New algorithms of cryptology and security for computer network

B.Sc.E., Materials Science & Engineering
Chongqing University, Chongqing, China July 1993

SELECTED PUBLICATIONS

Citations: 4822, H-index: 24, I10-index: 49, according to google scholar citations (https://scholar.google.com/citations?user=0epc43IAAAAJ&hl=en) on Aug. 04, 2019.

Papers in Peer-refereed Journals:

[1] **Sheng, V. S.**, *Zhang, J.*, Gu, B., & Wu, X. (2019). Majority Voting and Pairing with Multiple Noisy Labeling. *IEEE Transactions on Knowledge and Data Engineering*, 31(7): 1355-1368. DOI: 10.1109/TKDE.2017.2659740 (Impact factor: 2.476)

[2] *Zhang, J.*, **Sheng, V. S.**, Wu, J. Crowdsourced Label Aggregation Using Bi-Layer Collaborative Clustering. *IEEE Transactions on Neural Networks and Learning Systems.* (Accepted, Impact factor: 4.854)

[3] Zhang, Y., **Sheng, V. S.** (2019). Fog-enabled Event Processing Based on IoT Resource Models. *IEEE Transactions on Knowledge and Data Engineering*. DOI: 10.1109/TKDE.2018.2867504 (Accepted, Impact factor: 2.476)

[4] *Zhang, J.*, **Sheng, V. S.** (2019). Ensemble Learning from Crowds. *IEEE Transactions on Knowledge and Data Engineering*. DOI: 10.1109/TKDE.2018.2860992 (Accepted, Impact factor: 2.476)

[5] Fang, W., Ding, Y., Zhang, F., **Sheng, V. S.** (2019). DOG: A New Background Removal for Object Recognition from Images. *Neurocomputing*. (Accepted)

[6] Chen, X., Zhao, P., Liu, Y., Zhao, L., Fang, J., **Sheng, V. S.**, Cui, Z. (2019). Exploiting Aesthetic Features in Visual Contents for Movie Recommendation. *IEEE Access*, 7:

49813-49821

[7] Che, B., Zhao, P., Fang, J., Zhao, L., **Sheng, V. S.**, Cui, Z. (2019). Inter-Basket and Intra-Basket Adaptive Attention Network for Next Basket Recommendation. *IEEE Access*, 7: 80644 - 80650

[8] Liu, Z., Song, Y., **Sheng, V. S.**, Xu, C., Maere, C., Xue, K., Yang, K. (2019). MRI and PET image fusion using the nonparametric density model and the theory of variable-weight. *Computer Methods and Programs in Biomedicine*, 175: 73-82

[9] Liu, Z., Song, Y., **Sheng, V. S.**, Wang, L., Jiang, R., Zhang, X., Yuan, D. (2019). Liver CT sequence segmentation based with improved U-Net and graph cut. *Expert System and Applications*, 126: 54-63

[10] Liu, Z., Qiu, C., Song, Y., Liu, X., Wang, J., **Sheng, V. S.** (2019). Texture Feature Extraction from Thyroid MR Imaging Using High-Order Derived Mean CLBP. *Journal of Computer Science and Technology*, 34(1): 35-46

[11] Cheng, J., Li, M., Tang, X., **Sheng, V. S.**, Liu, Y., Guo W.(2019). Flow Correlation Degree Optimization Driven Random Forest for Detecting DDoS Attacks in Cloud Computing. *Security And Communication Networks*.

[12] Cheng, J., Li, M., Tang, X., **Sheng, V. S.**, Liu, Y., Guo W.(2019). Corrigendum to "Flow Correlation Degree Optimization Driven Random Forest for Detecting DDoS Attacks in Cloud Computing". *Security And Communication Networks*.

[13] Pan, Z., Yang, C., **Sheng, V. S.**, Xiong, N., Meng, W. (2019). Machine Learning for Wireless Multimedia Data Security. *Security and Communication Networks*.

[14] Li, Y., Peng, C., Zhang, J., Zhu, W., Xu, C., Lin, Y., Fu, X., Tian, Q., Zhang, L., Xiang, Y., **Sheng, V. S.**, Deng, H. (2019). Genetic risk factors identified in populations of european descent do not improve the prediction of osteoporotic fracture and bone mineral density in Chinese populations. *Scientific Reports*, volume 9, Article number: 6086. (Impact factor: 4.29)

[15] Gu, B., Quan, X., Gu, Y., **Sheng, V. S.**, Zheng, G. (2018). Chunk Incremental Learning for Cost Sensitive Hinge Loss Support Vector Machine. *Pattern Recognition*, 83, 196–208.

[16] *Zhang, J.*, **Sheng, V. S.**, Li, T., & Wu, X. (2018). Improving Crowdsourced Label Quality Using Noise Correction. *IEEE Transactions on Neural Networks and Learning Systems*, 29(5), 1675-1688. (Impact factor: 4.854)

[17] Chen, X., Zhao, P., Xu, J., Li, Z., Zhao, L., Liu, Y., **Sheng, V. S.**, **&** Cui, Z. (2018). Exploiting Visual Contents in Posters and Still Frames for Movie Recommendation. *IEEE ACCESS* (accepted in October 2018, Impact Factor=3.557)

[18] Gu, B., Shan, Y., **Sheng, V. S.**, & Li, S. (2018). Sparse Regression with Output Correlation for Cardiac Ejection Fraction Estimation. *Information Sciences*, 423: 303-312. (Impact factor: 4.832)

[19] Wang, Q., **Sheng, V. S.**, & Wu, X. (2018). Document-Specific Keyphrase Candidate Search and Ranking. *Expert Systems with Applications*, 97, 163-176. (Impact factor: 3.928)

[20] Fang, W., **Sheng, V. S.**, & Wen, X. (2018). MeteCloud: Meteorological Cloud

Computing Platform for Mobile Weather Forecasts based on Energy-aware Scheduling. *Journal of Internet Technology*, 19(3), 959-967.

[21] Cheng, J., Zhang, C., Tang, X., **Sheng, V. S.**, Dong, Z., & Li, J. (2018). Adaptive DDoS Attack Detection Method Based on Multiple-Kernel Learning. *Security and Communication Networks*, Volume 2018, Article ID 5198685.

[22] Liu, Z., Ma, Q., Liu, W., **Sheng, V. S.**, Zhang, L. & Liu, G. (2018). Access Control Model Based on Time Synchronization Trust in Wireless Sensor Networks. *Sensors* (Basel, Switzerland), 18(7).

[23] Xi, X., **Sheng, V. S.**, Sun, B., Wang, L., Hu. F. (2018) An Empirical Comparison on Multi-Target Regression Learning, *Computers Materials & Continua*, 56(2), 185-198.

[24] Zhao, P., Zhu, H., Liu, Y., Zhou, Z., Li, Z., Xu, J., Zhao, L., & **Sheng, V. S.** (2018). A Generative Model Approach for Geo-social Group Recommendation. *Journal of Computer Science and Technology (JCST)*, 33(4), 727-738.

[25] Wu, J., Guo, A., **Sheng, V. S.**, Zhao, P., & Cui, Z. (2018). An Active Learning Approach for Multi-label Image Classification with Sample Noise, *International Journal of Pattern Recognition and Artificial Intelligence*, 32(3), 1-23.

[26] Zhou, Z., Zhao, P., **Sheng, V. S.**, Xu, J., Li, Z., Wu, J., & Cui, Z. (2018). Efficient Sampling Methods for Characterizing POIs on Maps Based on Road Networks. *Frontiers of Computer Science*, *12*(3): 582-592. (Impact factor: 0.660)

[27] Cheng, J., Li, M., Tang, X., Sheng, V. S., Liu, Y., & Guo, W. (2018). Flow Correlation Degree Optimization Driven Random Forest for Detecting DDoS Attacks in Cloud Computing. *Security and Communication Networks*, Volume 2018, Article ID 6459326.

[28] Fang, W., Zhang, F., **Sheng, V. S.**, Ding, Y. (2018). A Method for Improving CNN-based Image Recognition Using DCGAN. *Computers Materials & Continua* (accepted in June 2018)

[29] Cheng, R., Xu, R., Tang, X., **Sheng, V. S.**, Cai, C. (2018). An abnormal network flow feature sequence prediction approach for DDoS attacks detection in big data environment. *Computers Materials & Continua*, 55(1), 95-119.

[30] Gu, B., **Sheng, V. S.**, Tay, K. Y., Romano, W., & Li, S. (2017). Cross Validation through Two-dimensional Solution Surface for Cost-Sensitive SVM. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 39*(6), 1103-1121. (10.1109/TPAMI.2016.2578326. Impact factor: 5.781).

[31] Gu, B. & **Sheng, V. S.** (2017). A Solution Path Algorithm for A General Parametric Quadratic Programming Problem. *IEEE Transactions on Neural Networks and Learning Systems, 28*(5), 1241-1248. (Impact factor: 4.854)

[32] Ai, X., Wu, J., & **Sheng, V. S.** (2017). Broaden the Minority Class Space for Decision Tree Induction Using Antigen-Derived Detectors. *Knowledge-based Systems*, 137C (2017), 196-205. (Impact factor: 3.325)

[33] Wu, J., **Sheng, V. S.**, Zhao, P., & Cui, Z. (2017). Active Learning with Label Correlation Exploring for Multi-Label Image Classification. *IET Computer Vision, 11*(17), 577-584.

[34] Gu, B., Sun, X., & **Sheng, V. S.** (2017). Structural Minimax Probability Machine. *IEEE Transactions on Neural Networks and Learning Systems, 28*(7), 646-1656. (Impact factor: 4.854)

[35] Li, C., Zhao, P., **Sheng, V. S.**, Xiang, X., Wu, J., & Cui, Z. (2017). Refining Automatically Extracted Knowledge Bases Using Crowdsourcing. *Computational Intelligence and Neuroscience*, 4092135:1-4092135:17.

[36] Wu, J., Zhao, S., **Sheng, V. S.**, Ye, C., Zhao, P., & Cui, Z. (2017). Weak Labeled Active Learning with Conditional Label Dependence for Multi-label Image Classification. *IEEE Transactions on Multimedia, 19(6):* 1156-1169. (Impact factor: 2.536)

[37] Zhao, P., Jiang, H., Xu, J., **Sheng, V. S.**, Liu, G., Liu, A., Wu, J., & Cui, Z. (2017). Location-Aware Publish/Subscribe Index with Complex Boolean Expressions. *World Wide Web Journal (WWWJ), 20:* 1363-1384. doi:10.1007/s11280-017-0439-z (Impact factor: 1.474)

[38] Shu, Z., **Sheng, V. S.**, Li, J. (2017). Learning from Crowds with Active Learning and Self-Healing. *Neural Computing and Applications*, 1-12. (Impact factor: 1.492)

[39] Gu, B., & **Sheng, V. S.** (2017). A Robust Regularization Path Algorithm for ν-Support Vector Classification. *IEEE Transactions on Neural Networks and Learning Systems*, *28*(5): 1241-1248. (Impact factor: 4.854)

[40] *Zhang, J.*, **Sheng, V. S.**, Li, Q., Wu, J., & Wu, X. (March 2017). Consensus algorithms for biased labeling in crowdsourcing. *Information Sciences*, Volumes 382, 254-273. (Impact factor: 4.832)

[41] Zhao, P., Fang, H., **Sheng, V. S.**, Li, Z., Xu, J., Wu, J., & Cui, Z. (2017), Monochromatic and Bichormatic Ranked Reverse Boolean Spatial Keyword Nearest Neighbors Search. *World Wide Web Journal (WWWJ), 20*(1): 39-59. (Impact factor: 1.539)

[42] *Zhang, J.*, Wu, X., & **Sheng, V. S.**, (2016). Learning from crowdsourced labeled data: a survey. *Artificial Intelligence Review*, *46*(4), 543-576. (Impact factor: 1.731)

[43] *Nicholson, B.*, **Sheng, V. S.**, & *Zhang, J*. (2016). Label Noise Correction and Application in Crowdsourcing. *Expert Systems with Applications*, *66*, 149-162. (Impact factor: 2.981)

[44] *Zhang, J.*, **Sheng, V. S.**, Wu, J., & Wu, X. (2016). Multi-Class Ground Truth Inference in Crowdsourcing with Clustering. *IEEE Transactions on Knowledge and Data Engineering*, *28*(4), 1080-1085. (Impact factor: 2.476)

[45] Li, C., **Sheng, V. S.**, Jiang, L., & Li, H. (2016). Noise Filtering to Improve Data and Model Quality for Crowdsourcing. *Knowledge-Based Systems*, *107*, 96-103. (Impact factor: 3.325)

[46] Xian, X., Zhao, P., **Sheng, V. S.**, Fang, L., Gu, C., Yang, Y., & Cui, Z. (2016). Stratification Based Outlier Detection over the Deep Web. *Computational Intelligence and Neuroscience*, *2016*, 7386517:1-7386517:13. (Impact factor: 0.596)

[47] Yan, X., Wu, Q., & **Sheng, V. S.** (2016). A Double Weighted Naive Bayes with Niching Cultural Algorithm for Multi-Label Classification. *International Journal of*

Pattern Recognition and Artificial Intelligence, 30(6), 1-23. (DOI: 10.1142/S0218001416500130, Impact factor: 0.915)

[48] *Zhang, J.*, **Sheng, V. S.**, *Nicholson, B. A.*, & Wu, X. (2015). CEKA: A Tool for Mining the Wisdom of Crowds. *Journal of Machine Learning Research*, *16*, 2853-2858. (Impact factor: 3.420)

[49] Gu, B., **Sheng, V. S.**, Wang, Z., Ho, D., Osman, S., & Li, S. (2015). Incremental Learning for v-Support Vector Regression Learning Systems. *Neural Networks, 67*, 140-150. *Elsevier*, (Impact factor: 3.216)

[50] Gu, B., **Sheng, V. S.**, Tay, K. Y., Romano, W., & Li, S. (2015). Incremental Support Vector Learning for Ordinal Regression. *IEEE Transactions on Neural Networks and Learning Systems, 26*(7), 1403 – 1416. (Impact factor: 3.766)

[51] *Zhang, J.*, Wu, X., & **Sheng, V. S.**, (2015). Imbalanced Multiple Noisy Labeling. *IEEE Transactions on Knowledge and Data Engineering, 27*(2), 489-503. (Impact factor: 2.476)

[52] Ai, X., Wu, J, **Sheng, V. S.**, Zhao, P., & Cui, Z. (2015). Immune Centroids Over-Sampling Method for Binary Classification. *Computational Intelligence and Neuroscience, 2015*, Article ID 10980, 11 pages, doi:10.1155/2015/109806.

[53] *Zhang, J.*, Wu, X., & **Sheng, V. S.** (2015). Active Learning with Imbalanced Multiple Noisy Labeling. *IEEE Transactions on Cybernetics*, *45*(5), 1095-1107. (Impact factor: 3.236)

[54] Ipeirotis, P. G., Provost, F., **Sheng, V. S.**, & Wang, J. (2014). Repeated Labeling Using Multiple Noisy Labelers. *Data Mining and Knowledge Discovery*, *28*(2), 402-441. (Impact factor: 2.877)

[55] **Sheng, V. S.**, Gu, B., Fang, W., & Wu, J. (2014). Cost-sensitive learning for defect escalation. *Knowledge-Based Systems, 66*, 146-155. (Impact factor: 2.947)

[56] Wu, J., Cui, Z, **Sheng, V. S.**, Shi, Y., & Zhao, P. (2014). Mixed Pattern Matching-Based Traffic Abnormal Behavior Recognition. *The Scientific World Journal*, *2014*, Article ID 834013. (Impact factor: 1.730)

[57] Fang, W., **Sheng, V. S.**, Wen, X., & Pan, W. (2014). Meteorological Data Analysis Using MapReduce. *The Scientific World Journal*, Volume 2014 (2014), Article ID 646497. (Impact factor: 1.730)

[58] Wu, J., **Sheng, S.**, Zhao, P., & Cui, Z. (2014). Minimal Difference Sampling for Active Learning Image Classification. *Journal of China Institute of Communications*, *35*(1), 107-114.

[59] Shi, Y., Wu, J., **Sheng, S.**, Cui, Z., & Zhao, P. (2014). Study of Active Learning-based Trademark Number Recognition Method. *Journal of Algorithms & Computational Technology*, *8*(1), 71-84.

[60] Gu, B., & **Sheng, V. S.** (2013). Feasibility and Finite Convergence Analysis for Accurate On-line ν-Support Vector Machine. *IEEE Transactions on Neural Networks and Learning Systems*, *24*(8), 1304 – 1315. (Impact factor: 3.766)

[61] Yan, X., Luo, W., Wu, Q., & **Sheng, V. S.** (2013). A hybrid intelligent data classification algorithm. *International Journal of Wireless and Mobile Computing,*

6(6), 573-580. (Impact factor: 2.417)

[62] Wu, J., Cui, Z, **Sheng, V. S.**, Zhao, P., Su, D., & Gong, S. (2013). A Comparative Study of SIFT and its Variants. *Measurement Science Review*, *13*(3), 122-131. (Impact factor: 1.233)

[63] Su, D., Wu, J., Cui, Z., **Sheng, V. S.**, & Gong, S. (2013). CGCI-SIFT: A More Efficient and Compact Representation of Local Descriptor. *Measurement Science Review*, *13*(3), 132-141. (Impact factor: 1.233)

[64] Wu, J., Cui, Z., Shi, Y., **Sheng, S.**, & Gong, S. (2013). Local density-based similarity matrix construction for spectral clustering. *Journal of China Institute of Communications*, *34*(3), 14-22.

[65] *Atla, A.*, **Sheng, V. S.**, *Tada, R.*, & *Singireddy, N.* (2011). Sensitivity of different machine learning algorithms to noise. *Journal of Computing Sciences in Colleges*, *26*(5), 96-103. (Also appear at the Proceedings of the Ninth Annual CCSC Mid-South Conference)

[66] Ling, C.X., & **Sheng, V. S.** (2007). A Comparative Study of Cost-Sensitive Classifiers. *Chinese Journal of Computers*, *30*(8), 1203-1212.

[67] Ling, C.X., **Sheng, V. S**., & Yang, Q. (2006). Test Strategies for Cost-Sensitive Decision Trees. *IEEE Transactions on Knowledge and Data Engineering*, *18*(8), 1055-1067.

[68] Zhang, S., Qin, Z., Ling, C.X., & **Sheng, S.** (2005). "Missing is Useful": Missing Values in Cost-sensitive Decision Trees. *IEEE Transactions on Knowledge and Data Engineering*, *17*(12), 1689-1693.

Selected Papers in Peer-refereed Conference Proceedings:

[1] **Sheng, V. S.**, & Zhang, J. (2019). Machine Learning with Crowdsourcing: A Brief Summary of the Past Research and Future Directions. In *Proceedings of the 33rd National Conference on Artificial Intelligence (**AAAI**)*: 9837-9843. January 27 – February 1, Honolulu, Hawaii, USA.

[2] Zhao, P., Zhu, H., Liu, Y., Li, Z., Xu, J., & **Sheng, V. S.** (2019). Where to Go Next: A Spatio-temporal LSTM model for Next POI Recommendation., In *Proceedings of the 33rd National Conference on Artificial Intelligence (**AAAI**)*: 5877-5884. January 27 – February 1, Honolulu, Hawaii, USA.

[3] Zhang, T., Zhao, P., Liu, Y., Xu, J., Fang, J., Zhao, L., **Sheng, V. S.**, Cui, Z. (2019). AdaCML: Adaptive Collaborative Metric Learning for Recommendation. In *International Conference on Database Systems for Advanced Applications (**DASFAA**)* (2) 2019: 301-316

[4] Luo, A., Zhao, P., Liu, Y., Xu, J., Li, Z., Zhao, L., **Sheng, V. S.**, Cui, Z. (2019). Adaptive Attention-Aware Gated Recurrent Unit for Sequential Recommendation. In *International Conference on Database Systems for Advanced Applications (**DASFAA**)* (2) 2019: 317-332

[5] Liu, J., Zhao, P., Liu, Y., Xu, J., Fang, J., Zhao, L., **Sheng, V. S.**, Cui, Z. (2019). Attention and Convolution Enhanced Memory Network for Sequential Recommendation. In *International Conference on Database Systems for Advanced Applications (**DASFAA**)* (2) 2019: 333-349

[6] Liu, G., Liu, Z., **Sheng, V. S.**, Zhang, L., Yang, Y. (2019). A Centralized Energy-Efficient Wireless Sensor Network Routing Protocol for the Static Sensor Nodes. EWSN 2019: 384-390

[7] Xu, C., Zhao, P., Liu, Y., Xu, J., **Sheng, V. S.**, Cui, Z., Zhou X., Xiong, H. (2019). Recurrent Convolutional Neural Network for Sequential Recommendation. **WWW** 2019: 3398-3404

[8] Fan, Lv, Hu, F., **Sheng, V. S.**, Wu, Z., Fu, Q., & Fu, B. (2018). Coarse to Fine: Multi-label Image Classification with Global/Local Attention. *IEEE International Smart Cities Conference (ISC2)*, Sept. 16-19, 2018. Kansas City, MO, USA. (Accepted)

[9] Zhu, H., Zhao, P., Li, Z., Xu, J., Zhao, L., & **Sheng, V. S.** (2018). Exploiting Implicit Social Relationship for Point-of-Interest Recommendation. *APWeb-WAIM Joint Conference on Web and Big Data 2018 (APWeb-WAIM)* (pp. 280-297), July 23-25, 2018, Macau, China.

[10] Wang, Q., **Sheng, V. S.**, & Liu, Z. (2018). Exploring Methods of Assessing Influence Relevance of News Articles. *The 4th International Conference on Cloud Computing and Security (ICCCS2018)* (pp. 525-536)

[11] Palmer, J., **Sheng, V. S.**, & Chen, B. (2018) Classification on Grade, Price, and Region with Multi-Label Methods in Wineinformatics. *The 4th International Conference on Cloud Computing and Security (ICCCS2018)* (**Best Paper Award**)

[12] Zhong, S., Lu, X., Li, M., Liu, C., Cheng, Y., & **Sheng, V. S.** (2018). An Adaptive Construction Test Method Based on Geometric Calculation for Linearly Separable Problems. *The 4th International Conference on Cloud Computing and Security (ICCCS2018)* (pp. 392-405)

[13] Zhao, P., Xu, X., Liu, Y., Zhou, Z., Zheng, K., **Sheng, V. S.,** & Xiong, H. (2017) Exploiting Hierarchical Structures for POI Recommendation. In *Proceedings of 2017 IEEE International Conference on Data Mining (**ICDM**)* (pp. 655-664), New Orleans, USA. November 18 ~ 21, 2017 (Acceptance rate: 14.8%)

[14] Wu, J., Guo, A., **Sheng, V. S.**, Zhao, P. & Cui, Z. (2017). Adaptive Low-Rank Multi-Label Active Learning for Image Classification. In *Proceedings of the 25th ACM International Conference on Multimedia (**ACMMM**)* (pp. 1336-1344). Mountain View, CA USA. October 23 ~ 27 2017 (Acceptance rate: 28%)

[15] Zhao, P., **Sheng, V. S.**, Wu, J. & Cui, Z. (2017). Photo2Trip: Exploiting Visual Contents in Geo-tagged Photos for Personalized Tour Recommendation. In *Proceedings of the 25th ACM International Conference on Multimedia (**ACMMM**)* (pp. 916-924). Mountain View, CA USA. October 23 ~ 27 2017 (Acceptance rate: 28%)

[16] Zhang, J., **Sheng, V. S.**, & Li, T. (2017, August). Label Aggregation for Crowdsourcing with Bi-Layer Clustering. *The 40th International ACM SIGIR Conference on Research and Development in Information Retrieval (**SIGIR**)* (921-924). August 7-11, 2017, Tokyo, Japan. (Acceptance rate: 30%)

[17] Long, Y., Zhao, P., **Sheng, V. S.**, Liu, G., Xu, J., Wu, J. & Cui, Z. (2017, October). Social Personalized Ranking Embedding for Next POI Recommendation. *International Conference on Web Information Systems Engineering (**WISE**)* (pp. 91-105). October 7-11, 2017, Moscow, Russia.

[18] Wang, Q., **Sheng, V. S.**, & Hu, C. (2017, August). Keyphrase Extraction Using Sequential Pattern Mining and Entropy, *Big Knowledge (**ICBK**), 2017 IEEE International Conference on* (pp. 88-95).

[19] Wu, J., Zhao, S., **Sheng, V. S.**, Zhao, P., & Cui, Z. (2017, July). Mutli-Label Active Learning with Low-Rank Mapping for Image Classification. In *Multimedia and Expo (**ICME**), 2017 IEEE International Conference on* (pp. 259-264). July 10-14, 2017, Hong Kong, China. IEEE. (Acceptance rate: 30%)

[20] Wang, Q., **Sheng, V. S.**, & Wu, X. (2017, February) Keyphrase Extraction with Sequential Pattern Mining. In *Proceedings of the 31st National Conference on Artificial Intelligence (**AAAI**)* (extended abstract and poster) (pp. 5003-5004). February 4-9, San Francisco, California.

[21] Wu, J., Zhao, S., **Sheng, V. S.**, Zhao, P., & Cui, Z. (2016, July). Multi-label active learning for image classification with asymmetrical conditional dependence. In *Multimedia and Expo (**ICME**), 2016 IEEE International Conference on* (pp. 1-6). July 11-15, 2016, Seattle, USA. IEEE. (Acceptance rate: 30%)

[22] Jiang, H., Zhao, P., **Sheng, V. S.**, Xu, J., Liu, A., Wu, J., & Cui, Z. (2016, April). An Efficient Location-Aware Top-k Subscription Matching for Publish/Subscribe with Boolean Expressions. In *International Conference on Database Systems for Advanced Applications (**DASFAA**)* (pp. 335-350). April 16-19, Dallas, Texas, USA. Springer International Publishing.

[23] Li, C., Zhao, P., **Sheng, V. S.**, Li, Z., Liu, G., Wu, J., & Cui, Z. (2016, June). A Hybrid Machine-Crowdsourcing Approach for Web Table Matching and Cleaning. In *International Conference on Web-Age Information Management (**WAIM**)* (pp. 132-144). June 3-5, Nanchang, Jiangxi, China. Springer International Publishing.

[24] *Nicholson, B.A., Zhang, J.*, **Sheng, V. S.**, & Wang, Z. (2015, October). Label Noise Correction Methods. In *Data Science and Advanced Analytics (**DSAA**), 2015. 36678 2015. IEEE International Conference on* (pp. 1-9). October 19-21, Paris. IEEE. (Acceptance rate: 34%)

[25] *Nicholson, B.A.*, **Sheng, V. S.**, & *Zhang, J.* (2015, September). Noise Correction of Image Labeling in Crowdsourcing. In *Image Processing (**ICIP**), 2015 IEEE International Conference on* (pp. 1458-1462). Sept. 27-30, Quebec City, Canada, IEEE.

[26] *Nicholson, B.A.*, **Sheng, V. S.**, *Zhang, J.*, Wang, Z., & Xian, X. (2015, October). Improving Label Accuracy by Filtering Low-Quality Workers in Crowdsourcing. In *Mexican International Conference on Artificial Intelligence (MICAI)* (pp. 547-559). October 25-31, Cuernavaca (near Mexico City), Mexico. Springer International Publishing. (Acceptance rate: around 25%)

[27] *Zhao*, S., Wu, J., **Sheng, V. S.**, Ye, C., Zhao, P., & Cui, Z. (2015, October). Weak Labeled Multi-Label Active Learning for Image Classification. In *Proceedings of the 23rd ACM international conference on Multimedia (**ACMMM**)* (pp. 1127-1130). October 26-30, Brisbane, Australia. ACM.

[28] *Zhang, J.*, **Sheng, V. S.**, Wu, J., *Fu, X.*, & Wu, X. (2015, October). Improving Label Quality in Crowdsourcing Using Noise Correction. In *Proceedings of the 24th ACM International on Conference on Information and Knowledge Management*

*(**CIKM**)* (pp. 1931-1934). Oct. 19-23, Melbourne, Australia. ACM. (Acceptance rate: 17.9%)

[29] *Ai, X.*, Wu, J., **Sheng, V.S.**, Yao, Y., Zhao, P., & Cui, Z. (2015, October). Best First Over-Sampling for Multilabel Classification. In *Proceedings of the 24th ACM International Conference on Information and Knowledge Management (**CIKM**)* (pp. 1803-1806). Oct. 19-23, Melbourne, Australia. ACM. (Acceptance rate: 17.9%)

[30] Shu, Z., **Sheng, V. S.**, Zhang, Y., Wang, D., Zhang, J., & Chen, H. (2015, December). Integrating Active Learning with Supervision for Crowdsourcing Generalization. In *2015 IEEE 14th International Conference on Machine Learning and Applications (ICMLA)* (pp. 232-237). December 9-11, Miami, Florida, USA. IEEE. (Acceptance rate: 30%)

[31] Li, J., **Sheng, V. S.**, Shu, Z., Cheng, Y., Jin, Y., & Yan, Y. F. (2015, December). Learning from the Crowd with Neural Network. In *2015 IEEE 14th International Conference on Machine Learning and Applications (ICMLA)* (pp. 693-698). December 9-11, Miami, Florida, USA. IEEE. (Acceptance rate: 30%)

[32] Yan, X., Li, W., Wu, Q., & **Sheng, V. S.** (2015, November). A Double Weighted Naive Bayes for Multi-label Classification. In *International Symposium on Intelligence Computation and Applications* (pp. 382-389). Springer Singapore.

[33] Fang, H., Zhao, P., **Sheng, V. S.**, Li, Z., Xu, J., Wu, J., & Cui, Z. (2015, November). Ranked Reverse Boolean Spatial Keyword Nearest Neighbors Search. In *International Conference on Web Information Systems Engineering (**WISE**)* (pp. 92-107). October 18-20, Miami, Florida, USA. Springer International Publishing. (Acceptance rate: 28%) (**Best Student Paper Award Finalist**)

[34] Jiang, H., Zhao, P., **Sheng, V. S.**, Liu, G., Liu, A., Wu, J., & Cui, Z. (2015, November). An Efficient Location-Aware Publish/Subscribe Index with Boolean Expressions. In *International Conference on Web Information Systems Engineering (**WISE**)* (pp. 216-231). October 18-20, Miami, Florida, USA. Springer International Publishing. (Acceptance rate: 28%)

[35] Wu, J., Ye, C., **Sheng, V. S.**, Yao, Y., Zhao, P., & Cui, Z. (2015, September). Semi-automatic Labeling with Active Learning for Multi-label Image Classification. In *Pacific Rim Conference on Multimedia (PCM)* (pp. 473-482). September 16-19, Gwangju, Korea. Springer International Publishing.

[36] Gao, L., Zhao, P., **Sheng, V. S.**, Li, Z., Liu, A., Wu, J., & Cui, Z. (2015, September). EPEMS: An Entity Matching System for E-Commerce Products. In *Asia-Pacific Web Conference (**APWeb**)* (pp. 871-874). Guangzhou, China. Springer International Publishing.

[37] Ye, C., Wu, J., **Sheng, V. S.**, Zhao, P., & Cui, Z. (2015, September). Multi-label active learning with label correlation for image classification. In *Image Processing (**ICIP**), 2015 IEEE International Conference on* (pp. 3437-3441). Sept. 27-30, Quebec City, Canada. IEEE. (Acceptance rate: 14.4%)

[38] Gu, B., **Sheng, V. S.**, & Li, S. (2015, June). Bi-parameter space partition for cost-sensitive SVM. In *Proceedings of the 24th International Conference on Artificial Intelligence (**IJCAI**)* (pp. 3532-3539). July 25-31, Buenos Aires, Argentina. AAAI Press. (Acceptance rate: 28.8%)

[39] Ye, C., Wu, J., **Sheng, V. S.**, Zhao, S., Zhao, P., & Cui, Z. (2015, June). Multi-label active learning with Chi-square statistics for image classification. In *Proceedings of the 5th ACM on International Conference on Multimedia Retrieval (**ICMR 2015**)* (pp. 583-586). Shanghai, China. ACM.

[40] Ai, X., Wu, J., **Sheng, V. S.**, Zhao, P., Yao, Y., & Cui, Z. (2015, May). Immune Centroids Over-Sampling Method for Multi-Class Classification. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining (**PAKDD**)* (pp. 251-263). May 19-22, Ho Chi Minh City, Vietnam. Springer International Publishing. (Acceptance rate: 22.2%)

[41] Zhao, P., Kuang, X., **Sheng, V. S.**, Xu, J., Wu, J., & Cui, Z. (2015, April). Scalable Top-k Spatial Image Search on Road Networks. In *International Conference on Database Systems for Advanced Applications (**DASFAA**)* (pp. 379-396). April, Hanoi, Vietnam. Springer International Publishing.

[42] Xu, H., Zhao, P., **Sheng, V. S.**, Liu, G., Zhao, L., Wu, J., & Cui, Z. (2015, June). Batch Mode Active Learning for Networked Data with Optimal Subset Selection. In *International Conference on Web-Age Information Management (**WAIM**)* (pp. 96-108). Springer International Publishing.

[43] Zhou, Z., Zhao, P., **Sheng, V. S.**, Xu, J., Li, Z., Wu, J., & Cui, Z. (2015, June). Effective Sampling of Points of Interests on Maps Based on Road Networks. In *International Conference on Web-Age Information Management (**WAIM**)* (pp. 563-566). Springer International Publishing.

[44] Liu, Y., Zhao, P., **Sheng, V. S.**, Li, Z., Liu, A., Wu, J., & Cui, Z. (2015, June). RPCV: Recommend Potential Customers to Vendors in Location-Based Social Network. In *International Conference on Web-Age Information Management (**WAIM**)* (pp. 272-284). Springer International Publishing.

[45] Kuang, X., Zhao, P., **Sheng, V. S.**, Wu, J., Li, Z., Liu, G., & Cui, Z. (2015, June). TK-SK: Textual-Restricted K Spatial Keyword Query on Road Networks. In *Australasian Database Conference (ADC)* (pp. 167-179). June, Melbourne, Australia. Springer International Publishing.

[46] Fang, H., Zhao, P., **Sheng, V. S.**, Wu, J., Xu, J., Liu, A., & Cui, Z. (2015, June). Effective Spatial Keyword Query Processing on Road Networks. In *Australasian Database Conference (ADC)* (pp. 194-206). June, Melbourne, Australia. Springer International Publishing.

[47] Cui, Z., Chen, X., Wu, J., **Sheng, V. S.**, & Shi, Y. (2014, October). Maximum classification optimization-based active learning for image classification. In *Image and Signal Processing (CISP), 2014 7th International Congress on* (pp. 759-764). IEEE.

[48] Wu, J., **Sheng, V. S.**, Zhang, J., Zhao, P., & Cui, Z. (2014, October). Multi-label active learning for image classification. In *2014 IEEE International Conference on Image Processing (**ICIP**)* (pp. 5227-5231). Oct. 27-30, Paris, France. IEEE.

[49] Zhang, J., Wu, X., & **Sheng, V. S.** (2013, August). A threshold method for imbalanced multiple noisy labeling. In *Proceedings of the 2013 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (**ASONAM**)* (pp. 61-65). August 25-28, Niagara Falls, Canada. ACM. (Acceptance rate: 13%)

[50] *Tawiah, C. A.*, & **Sheng, V. S.**, (2013, June). Empirical Comparison of Multi-Label Classification Algorithms. In *Proceedings of the 27th National Conference on Artificial Intelligence (**AAAI**)* (pp. 1645-1646) (extended abstract and poster). July 14-18, Bellevue, Washington. AAAI.

[51] *Eichelberger, R. K.*, & **Sheng, V. S.**, (2013, June). Does One-Against-All or One-Against-One Improve the Performance of Multiclass Classifications. In *Proceedings of the 27th National Conference on Artificial Intelligence (**AAAI**)* (pp. 1609-1610) (extended abstract and poster). July 14-18, Bellevue, Washington. AAAI.

[52] *Zhang, J.*, Wu, X., & **Sheng, V. S.**, (2013, June). Imbalanced Multiple Noisy Labeling for Supervised Learning. In *Proceedings of the 27th National Conference on Artificial Intelligence (**AAAI**)* (pp. 1651-1652) (extended abstract and poster). July 14-18, Bellevue, Washington. AAAI.

[53] *Tawiah, C. A.*, & **Sheng, V. S.** (2013, July). A study on multi-label classification. In *Industrial Conference on Data Mining (ICDM)* (pp. 137-150). Springer Berlin Heidelberg. July 16-21, New York. (Acceptance rate: 29.5%)

[54] *Eichelberger, R. K.*, & **Sheng, V. S.** (2013, July). An empirical study of reducing multiclass classification methodologies. In *International Conference on Machine Learning and Data Mining in Pattern Recognition (MLDM)* (pp. 505-519). July 19-25, New York. Springer Berlin Heidelberg. (Acceptance rate: 28.3%)

[55] **Sheng, V. S.** (2012, January). Studying Active Learning in the Cost-Sensitive Framework. In *System Science (HICSS), 2012 45th Hawaii International Conference on* (pp. 1097-1106). January 4-7, Grand Wailea, Maui, Hawaii, USA. IEEE.

[56] *Nordin, B.*, Hu, C., Chen, B., & **Sheng, V. S.** (2012, December). Interval-Valued Centroids in K-Means Algorithms. In *Proceedings of the 11th International Conference on Machine Learning and Applications (ICMLA)* (pp. 478-481). December 12-15, Boca Raton, Florida, USA.

[57] **Sheng, V. S.** (2011, December). Simple multiple noisy label utilization strategies. In *Proceedings of the 11th IEEE International Conference on Data Mining (**ICDM**)* (pp. 635-644). December 11-14, Vancouver, Canada. IEEE. (Regular paper acceptance rate: 12.3%).

[58] **Sheng, V. S.** (2011, August). Example Labeling Difficulty within Repeated Labeling. In *Proceedings of the 7th International Conference on Data Mining (DMIN)* (pp. 301-307). August 18-21, Las Vegas, Nevada, USA. (Acceptance rate: 24%).

[59] **Sheng, V. S.**, *Tada, R., & Atla, A.* (2011, August). An Empirical Study of Noise Impacts on Supervised Learning Algorithms and Measures. In *Proceedings of the 7th International Conference on Data Mining (DMIN)* (pp. 266-272). August 18-21, Las Vegas, Nevada, USA. (Acceptance rate: 24%).

[60] **Sheng, V. S.** (2011, August). Fast Data Acquisition in Cost-Sensitive Learning. In *Proceedings of the 11th Industrial Conference on Data Mining (ICDM)* (pp. 66-77). Aug. 30 - Sept. 3, New York. (**Best Paper Award**). (Acceptance rate: less than 24%)

[61] **Sheng, V. S.**, & *Tada, R.* (2011, August). Boosting Inspired Process for Improving AUC. In *Proceedings of the 7th International Conference on Machine Learning and Data Mining (MLDM)* (pp. 199-209). Aug. 30 - Sept. 3, New York. (Acceptance rate: less than 26%).

[62] *Atla, A.,* **Sheng, V. S.,** *Tada, R., & Singireddy, N.* (2011). Sensitivity of different machine learning algorithms to noise. *Proceedings of the Ninth Annual CCSC Mid-South Conference, and Journal of Computing Sciences in Colleges, 26*(5), 96 - 103.

[63] **Sheng, V. S.**, Provost, F. J., & Ipeirotis, P. G. (2008, August). Get Another Label? Improving Data Quality and Data Mining Using Multiple, Noisy Labelers. In *Proceedings of the 14th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**)* (pp. 614-622). August 24-27, Las Vegas, Nevada, USA. (Acceptance rate: 50/~500 < 10%, **Best Paper Award Runner-Up**).

[64] **Sheng, V. S.**, & Ling, C. X. (2007). Partial Example Acquisition in Cost-Sensitive Learning. In *Proceedings of the 13th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**)* (pp. 638-646). August 12-15, San Jose, California, USA. (Acceptance rate: 1/12)

[65] **Sheng V. S.**, & Ling, C. X. (2007, September). Roulette Sampling for Cost-Sensitive Learning. In *Proceedings of the 18th European Conference on Machine Learning (**ECML**)* (pp. 724-731). September 17-21, Warsaw, Poland.

[66] **Sheng, V. S.**, & Ling, C. X. (2006, June). Feature Value Acquisition in Testing: A Sequential Batch Test Algorithm. In *Proceedings of the 23rd International Conference on Machine Learning (**ICML**)* (pp. 809-816). June 25-29, Carnegie Mellon University, Pittsburgh, Pennsylvania.

[67] Ling, C. X., **Sheng, V. S.**, Bruckhaus T., & Madhavji, N. H. (2006, August). Maximum Profit Mining and Its Application in Software Development. In *Proceedings of the 12th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (**KDD**)* (pp. 929-934). August 20-23, Philadelphia, USA.

[68] **Sheng, V. S.**, & Ling, C. X. (2006, July). Thresholding for Making Classifiers Cost-Sensitive. In *Proceedings of the 21st National Conference on Artificial Intelligence (**AAAI**)* (pp. 476-481). July 16–20, Boston, Massachusetts.

[69] **Sheng, V. S.**, Ling, C. X., Ni, A., & Zhang, S. (2006, July). Cost-Sensitive Test Strategies. In *Proceedings of the 21st National Conference on Artificial Intelligence (**AAAI**)* (pp. 482-487). July 16–20, Boston, Massachusetts.

[70] **Sheng, S.**, Ling, C. X., & Yang, Q. (2005, October). Simple Test Strategies for Cost-Sensitive Decision Trees. In *Proceedings of the 16th European Conference on Machine Learning (**ECML**)* (pp. 365-376). October 3-7, Porto, Portugal. (Acceptance rate: 1/9).

[71] **Sheng, S.**, & Ling, C. X. (2005, October). Hybrid Cost-Sensitive Decision Trees. In *Proceedings of the 9th European Conference on the Principles and Practice of Knowledge Discovery in Databases (**PKDD**)* (pp. 274-284). October 3-7, Porto, Portugal. (Acceptance rate: 1/7).

[72] Ling, C. X., **Sheng, S.**, Bruckhaus, T., & Madhavji, N. H. (2005, November). Predicting Software Escalations with Maximum ROI. In *Proceedings of the Fifth IEEE International Conference on Data Mining (**ICDM**)* (pp. 4-pp). IEEE Computer Society Press. November 27-30, Houston, Texas. (Acceptance rate: 1/7).

[73] Zhang, H., & **Sheng, S**. (2004, November). Learning Weighted Naive Bayes with Accurate Ranking. In *Proceedings of the Fourth IEEE International Conference on*

*Data Mining (**ICDM**)* (pp. 567-570). IEEE Computer Society Press. November 01-04, Brighton, UK.

[74] **Sheng, S.**, Kong, H., & Zhou, Z. (2001). Travel Information Agent System. *2001 Conference Program*, The International Academy Of E-Business. March 7-12, Hyatt, San Francisco.

[75] **Sheng, S.**, Kong, H., & Yeo, H. N. (2001, February). XML and E-Commerce: A Travel Industry Case Study. In *Proceedings of IASTED International Conference on Applied Informatics (AI'2001)*. February 19-22, Innsbruck, Austria.

Papers in Peer-refereed Workshop Proceedings:

[1] Liu, J., Zhang, L., **Sheng, V. S.**, Laili, Y. (2016). Social Recommendation Terms: Probabilistic Explanation Optimization, In: Zhang L., Ren L., Kordon F. (eds) *Challenges and Opportunity with Big Data. Monterey Workshop 2016*. Lecture Notes in Computer Science, vol 10228, 155-167. Springer, Cham

[2] *Zhang, J.*, **Sheng, V. S.**, Lu, X. (2014, August). Harnessing User Data via Automatic Speech Recognition Service in a Mobile Environment. In *Proceedings of the 2nd Workshop on Multimodal Crowd Sensing (CrowdSens2014), joint with KDD 2014*, August 24, New York City, New York, USA.

[3] **Sheng, V. S.** (2006, October). Cost-Sensitive Learning for Software Escalation Predictions. *The UW and IEEE Kitchener-Waterloo Section Joint Workshop on Knowledge and Data Mining*. October 30-31, University of Waterloo, ON, Canada. (**Best Poster Award**)

[4] Ling, C. X., **Sheng, V. S.**, Bruckhaus T., & Madhavji, N. H. (2006, August). Maximum Profit Mining and Its Application in Software Development. In *Proceedings of the 2nd Workshop on Utility-Based Data Mining (ACM **UBDM**)* (pp. 929-934), *joint with KDD 2006*. August 20, Philadelphia, Pennsylvania, USA.

[5] **Sheng, S.**, & Osborn, S. (2004, August). A Classifier-based Approach to User-role Assignment for Web Applications. In *Proceedings of Workshop on Security Data Management **(SDM)*** (pp. 163-171), *joint with **VLDB 2004***, Springer Berlin Heidelberg. August 29 – September 3, Toronto, Canada.

[6] Bruckhaus T., Ling, C. X., Madhavji, N. H., & **Sheng, S**. (2004). Software Escalation Prediction with Data Mining. In *Workshop on Predictive Software Models **(PSM)**, A STEP Software Technology & Engineering Practice*. Chicago, IL, USA.

[7] **Sheng, S.**, & Kong, H. (2000, November). Travel Information Agent System. In *Proceedings of IEEE 2nd International Workshop on Networked Appliances*, November 30-December 1, New Brunswick, NJ, USA.

Book Chapters:

[1] Ling, C.X., & **Sheng, V. S.** (2017). Cost-Sensitive Learning. In *Encyclopedia of Machine Learning and Data Mining* (pp. 285-289). Editor-in-Chief, Claude Sammut & Geoffrey I. Webb. Springer. 2017.

[2] Ling, C.X., & **Sheng, V. S.** (2017). Class Imbalance Problem. In *Encyclopedia of Machine Learning and Data Mining* (pp. 204-205). Editor-in-Chief, Claude Sammut & Geoffrey I. Webb. Springer. 2017.

[3] Ling, C.X., & **Sheng, V. S.** (2011). Cost-Sensitive Learning. In *Encyclopedia of Machine Learning* (pp. 231-235). Editor-in-Chief, Claude Sammut. Springer. 2010.

[4] Ling, C.X., & **Sheng, V. S.** (2011). Class Imbalance Problem. In *Encyclopedia of Machine Learning* (pp. 167). Editor-in-Chief, Claude Sammut. Springer. 2010.

[5] **Sheng, V. S.**, & Ling, C. X. Cost-Sensitive Learning. In *Encyclopedia of Data Warehousing and Mining - 2nd Edition*. Editor-in-Chief, John Wang. Ideal Group Inc. 2009.

Working Papers & arXiv Preprint:

[1] Qi, L., **Sheng, V. S.** (2019). Location-aware Service Recommendations with Privacy-preservation in the Internet of Things. *Submitted to the IEEE Transactions on Industrial Informatics.*

[2] Cheng, J. Li, J., Tang, X., **Sheng, V. S.**, Zhang, C., Li, M. (2019). A Novel DDoS Attack Detection Method Using Optimized Generalized Multiple Kernel Learning. *arXiv preprint* arXiv:1906.08204.

[3] Liu, J., Zhao, P., Liu, Y., **Sheng, V. S.**, Zhuang, F., Xu, J., Zhou, X. (2019). Deep Cross Networks with Aesthetic Preference for Cross-domain Recommendation. *arXiv preprint* arXiv:1905.13030.

[4] Wu, J. **Sheng, V. S.**, Guo, A., Zhang, J., Zhao, P., Cui, Z., Li, H. (2018). Multi-Label Active Learning Algorithms for Image Classification: Overview and Future Promise. *ACM Computing Surveys*. (Minor revision, Impact factor: 6.748)

[5] *Zhang, J.*, **Sheng, V. S.**, Wu, X. Multi-class Multi-Label True Inference for Crowdsourcing. *Submitted to Journal of Machine Learning Research.*

[6] Liu, Z., Song, Y., **Sheng, V. S.** Texture Feature Extraction from Thyroid MR Imaging Using a High-Order Derived Mean CLBP. *Journal of Computer Science and Technology*. (Minor revision)

[7] Ai, X., Ling, C., **Sheng, V. S.**, Cui, Z. An Integrated Bayesian Gaussian Mixture Model for Speech Emotion Recognition. *Submitted to Journal of Computer Science and Technology*.

[8] *Zhang, J.*, **Sheng, V. S.**, Xu, Y. D., Wu, X. Multi-class Multi-Label True Inference for Crowdsourcing. *Submitted to Journal of Machine learning Research.*

[9] Wang, Q., **Sheng, V. S.**, Wu, X. Exploring Methods of Assessing Influence Relevance of News Articles. *Submitted to the SCIENCE CHINA Information Sciences*. (Major revision)

[10] *Zhang, J.*, & **Sheng, V. S.** Do Features Help in Crowdsourced Label Aggregation? *Submitted to IEEE Transactions on Systems, Man and Cybernetics: Systems*.

[11] Gu, B., & **Sheng, V. S.** Generalized Solution and Error Paths: Applications to Computer-assisted Diagnosis. *Submitted to IEEE Transactions on Medical Imaging*.

[12] Kuang, X., Zhao, P., **Sheng, V. S.**, Wu, J., & Cui, Z. Efficient Textual-Restricted K Spatial Keyword Query on Road Networks. *Submitted to GoeInformatica.*

Talks without Papers:

[1] **Sheng, V. S.**, Provost, F. J., & Ipeirotis, P. G. Improving Data Quality and Data Mining

Using Multiple, Noisy Labelers. *New York Academy of Sciences Machine Learning Symposium*, 7 World Trade Center at 250 Greenwich Street, New York, October 10th, 2008.

[2] **Sheng, V. S.**, Provost, F. J., & Ipeirotis, P. G. Noisy Multi-Labeling: Toward Selective Acquisition of User-Generated Content. *Fourth Symposium on Statistical Challenges in Electronic Commerce Research, (SCECR 2008)*, New York, May 18-19, 2008

[3] **Sheng, V. S.**, Provost, F. J., & Ipeirotis, P. G. Multi-labeling When Data Preprocessing Is Costly. *INFORMS* (*Institute for Operations Research and the Management Sciences*) *Annual Meeting (data mining/machine learning session)*, Washington DC, Oct. 10-15, 2008.

[4] A Novel Sequential Batch Test Algorithm for Medical Diagnosis. *The University of Western Ontario Research in Computer Science Annual Conference 2007*. April 2, London, ON, Canada. (**Best Presentation Award**)

[5] Test Strategies for Cost-Sensitive Learning. *The University of Western Ontario Research in Computer Science Annual Conference 2006*. March 23, London, ON, Canada.

Invited Talks:

[1] "Get Another Labels? Improving Data Quality and Data Mining Using Multiple Noisy Labelers", *University of Arkansas at Fayetteville*, Sept. 11, 2015.

[2] "Get Another Labels? Improving Data Quality and Data Mining Using Multiple Noisy Labelers", *The Chinese Academy of Sciences*, July 27, 2015.

[3] "Simple Multiple Noisy Label Utilization Strategies", *China University of Geoscience,* June 11, 2015.

[4] "Improving Data Quality and Data Mining Using Noisy Repeated-labeling via Outsourcing", *The University of Western Ontario*, Canada, July 4, 2011.

PROFESSIONAL SERVICES AND ACTIVITIES

- Guest Editor: Special Issue "Data Analysis in Intelligent Communication Systems" in Electronic (2020)
- General Co-Chair of the ACM TURC Conference on Artificial Intelligence and Security (TURC-AIS 2019)
- Program Co-Chair of the International Conference on Big Data and Security (ICBDS 2019)
- Program Co-Chair of the Fifth International Conference on Artificial Intelligence and Security (ICAIS 2019)
- Organization Co-Chair of the International Workshop on Computational Intelligence and Applications with the Fifth International Conference on Artificial Intelligence and Security (ICAIS 2019)
- Organization Co-Chair of the International Workshop on Deep Learning: Algorithms, Systems, and Applications with the Fifth International Conference on Artificial Intelligence and Security (ICAIS 2019)

- Organization Co-Chair of the International Workshop on Representation Learning for Natural Language Processing with the Fifth International Conference on Artificial Intelligence and Security (ICAIS 2019)
- Area Chair, IEEE International Conference on Data Mining (ICDM 2019)
- Guest Editor: Special Issue "Machine Learning for Wireless Multimedia Data Security" in Security and Communication Networks (2019)
- Organization Co-Chair of the International Workshop on Weak Label Learning and Applications with the fourth International Conference on Cloud Computing and Security (ICCCS 2018)
- Area Chair, IEEE International Conference on Big Knowledge (ICBK 2018)
- Editorial Board: Computers Materials & Continua (CMC), 2018 – present
- Editorial Board: Trends in Artificial Intelligence, 2016 – present
- Editorial Board: Annals of Cognitive Science, 2016 – present
- International Editorial Review Board: International Journal of Information Systems in the Service Sector (IJISSS), December 2008 – 2018
- Editor: Open Computer Science, March 2015 – present
- Editor: Computers Materials & Continua (CMC), 2018 – present
- Finance Chair, IEEE international conference on Data mining 2017
- Panelist of NSF IIS program, 2015, 2014, 2012
- Editor: Central European Journal of Computer Science, 2011 – 2014
- Publicity Chair, the Tenth Annual Consortium for Computing Sciences in Colleges Mid-South Conference (2012)
- Conference session chair: ICCCS 2018, ICDM 2017, ICMLA 2015, MLDM 2013, ICDM 2013, MLDM 2012, INFORMS Annual Meeting 2008
- Program Committee Member
  - Senior Program Committee (SPC), the 34th AAAI Conference on Artificial Intelligence (AAAI-2020)
  - Senior Program Committee (SPC), the 28th International Joint Conference on Artificial Intelligence (IJCAI-19)
  - Senior Program Committee (SPC), the 33rd AAAI Conference on Artificial Intelligence (AAAI-19)
  - ACM SIGKDD 2019, 2018
  - Program Committee for the SIAM International Conference on Data Mining (SDM 2019, 2013)
  - The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2020, 2019, 2007)
  - International Conference on Data Intelligence and Security (ICDIS 2019)

- IEEE International Conference on Data Science and Systems (DSS 2018)
- International Conference on Cloud Computing and Security (ICCCS 2018)
- COST2018: International Workshop on Cost-Sensitive Learning
- LIDTA2018: Learning with Imbalanced Domains: Theory and Applications
- IEEE International Conference on Big Knowledge (ICBK 2018, 2017)
- IEEE International Conference on Data mining (ICDM 2018, 2017, 2016, 2015, 2013, 2012)
- The Industrial Conference on Data Mining (ICDM 2019, 2018, 2017, 2016, 2015, 2014)
- The International Conference on Cloud Computing and Security (ICCCS 2018, 2017, 2016)
- The International Conference on Data Mining (DMIN 2017, 2016, 2015, 2014, 2013, 2012, 2011)
- AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2016)
- The Challenges of Engineering and Mining Big Data in Cyber-Physical Systems (workshop) (2016)
- IEEE international Conference on Enterprise Systems (ES 2016)
- International Conference on Behavioral, Economic, and Socio-Cultural Computing (BESC 2016, 2015, 2014)
- International Joint Conference on Artificial Intelligence (machine learning track, 2015)
- PhD Forum in IEEE international conference on Data mining (2015)
- The International Conference on Image and Graphics (ICIG 2015)
- ASE International Conference on Data Science (2015)
- The International Conference on Information Integration and Web-based Applications & Services (iiWAS 2015, 2014)
- The 19th International Conference on Database Systems for Advanced Applications (DASFAA 2014 demo track)
- ASE/IEEE International Conference on Big Data Science and Computing (2014, 2013)
- The 16th Asia-Pacific Web Conference (APWeb 2014 demo track)
- The ACM Workshop (SNAKDD 2014, 2013, 2012) on Social Network Mining and Analysis (KDD 2014, KDD 2013, KDD 2012)
- International Workshop on Cost Sensitive Data Mining In conjunction with IEEE ICDM 2012
- HCOMP 2010 workshop on Human Computation (KDD 2010)
- HCOMP 2009 workshop on Human Computation
- NAACL 2009 workshop on Active Learning for NLP
- The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2007)

- Reviewer for Research Proposals
  - Canadian Mitacs Accelerate cluster proposals 2017, 2012
  - MIUR (the Italian Ministry for Education, University and Research), 2018
  - NSERC 2017, 2015
  - NSF IIS program, 2015, 2014, 2012
- Reviewer for journals and book chapters
  - ACM Computing Survey
  - ACM Transactions on Intelligent Systems and Technology
  - ACM Transactions on Knowledge Discovery from Data
  - Advances in Data Analysis and Classification (Springer)
  - Applied Soft Computing
  - BMC Bioinformatics
  - Central European Journal of Computer Science
  - Cluster Computing (CLUS)
  - Computing (Springer)
  - Data Mining and Knowledge Discovery
  - Encyclopedia of Data Warehousing and Mining - 2nd Edition, 2007
  - Expert Systems with Applications
  - IEEE Intelligent Systems
  - IEEE Transactions on Systems, Man, and Cybernetics – Part A: Systems and Humans
  - IEEE Transactions on Knowledge and Data Engineering
  - IETE Technical Review
  - Information Sciences
  - Information Fusion
  - INFORMS Journal on Computing
  - International Journal of Information Technology & Decision Making
  - International Journal of Information Systems in the Service Sector (IJISSS)
  - International Journal of Pattern Recognition and Artificial Intelligence
  - Journal of Computer Science and Technology
  - Journal of Experimental & Theoretical Artificial Intelligence
  - Journal of Internet Technology
  - Journal of Machine Learning Research
  - Journal of Machine Learning

- Knowledge-Based Systems
- Knowledge and Information Systems
- Neurocomputing
- Physica A
- Special issue for Expert Systems with Applications (ESWA) journal on "Intelligent Computational Techniques in Science, Engineering, and Business"

- Reviewer/external reviewer for conferences
  - CCSC Mid-South Conference (CCSC-MS 2012, CCSC-MS 2011)
  - The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2013, PAKDD 2012, PAKDD 2007, PAKDD 2006, PAKDD 2005)
  - Hawaii International Conference on System Sciences (HICSS-45)
  - International Conference on Ubiquitous Computing (Ubicomp 2011)
  - International Joint Conference on Artificial Intelligence (IJCAI 2007, IJCAI 2005)
  - International Conference on Data Mining (ICDM 2007, ICDM 2006, ICDM 2005, ICDM 2004)
  - IEEE/WIC/ACM International Conference on Web Intelligence (WI 2007)
  - IEEE International Conference on Bioinformatics and Biomedicine (BIBM 2007)
  - European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD 2005)
- Other Activities
  - Arkansas INBRE Grant Writing Workshop (Dec. 8, 2017) at University of Arkansas for Medical Sciences.
  - NSF CAREER Workshop, May 17, 2013 at the University of Texas at Arlington. (Sajal K. Das and Lynn Peterson, Workshop Coordinators)
- Memberships
  - ACM (Lifetime, since 2008)
  - IEEE Society (2011 – present, **senior member** since 2014)
  - Sigma Xi (July 1, 2011- June 30, 2012)

DEPARTMENT, COLLEGE, AND UNIVERSITY SERVICES

- Department Services
  - Tenure and Promotion Committee, Fall 2017 – present
  - Web Committee, Fall 2017 - present
  - Computer Science Scholarship Committee, June 2016 - present
  - Curriculum/Assessment Graduate Committee, Fall 2013 – Present

- ABET assessment committee, Aug. 2009 – present
- Exploratory committee (data science track), Aug. 2014 – Spring 2016
- Interdisciplinary research committee, Aug. 2014 – Spring 2016
- Advancement Committee, Aug. 2014 – Dec. 2014
- Departmental Seminar coordinator, Aug. 2013 – Aug. 2014
- Curriculum committee, Fall 2009 – Summer 2013
- Faculty recruiting committee, Aug. 2011 – May 2012
- Departmental research committee chair, Aug. 2012 – May 2013
- Departmental Research Committee, Fall 2012 – Aug. 2014

- College Services
  - College Tenure and Promotion Committee, August 2018 – May 2021
  - Scholarship Selection Adhoc Committee, March 2018 – present
  - College research committee, Aug. 2011 – Aug. 2014
- University Services
  - Faculty Emeritus/Emerita committee, Fall 2017 - present
  - Teaching Excellence Committee, Fall 2015 – Fall 2017
  - Research, Scholarship and Creative Activity Award Committee, Fall 2013 – Fall 2015
  - Acxiom-UCA collaboration (Ursa Minor), Aug. 2011 – May 2012
  - EPIC committee (entrepreneurship, public scholarship, Innovation, Community engagement), May 2011 – May 2012

COURSES TAUGHT

- Undergraduate Courses
  - CSCI 1300 Introduction to Computing (Spring 2010, Fall 2009)
  - CSCI 2440 Assembly Language and Computer Organization (Summer 2017, Summer 2016, Fall 2015, Spring 2015, Spring 2014, Fall 2013, Spring 2013, Fall 2012, Spring 2012, Fall 2011, Spring 2011, Fall 2010)
  - CSCI 3V75 Internship (Summer 2018, Fall 2017, Summer 2016)
  - CSCI 3330 Algorithms (Fall 2018, Spring 2018, Fall 2017, Fall 2016, Spring 2016, Fall 2015, Spring 2015, Fall 2014, Spring 2014, Fall 2013, Spring 2013, Fall 2012, Spring 2012, Fall 2011, Fall 2010, Fall 2009)
  - CSCI 3360 Database System (Fall 2010)
  - CSCI 3385 Artificial Intelligence (Spring 2018, Spring 2016, Fall 2014, Fall 2013)
  - CSCI 4V95 Independent Study (Spring 2018, Fall 2014, Summer 2013)
  - CSCI 4370 Data Mining (Spring 2012)

  - CSCI 4395 Undergraduate Research (Spring 2018, Fall 2014, Spring 2014)
- Graduate Courses
  - CSCI 5197 Special Topics (Summer 2015, Spring 2015, Summer 2012)
  - CSCI 5397 Special Topics (Summer 2016)
  - CSCI 5370 Data Mining (Spring 2012)
  - CSCI 5385 Artificial Intelligence (Spring 2016, Fall 2014, Fall 2013)
  - CSCI 6397 Special Topics (CSCI 6310, Advanced Data Mining) (Spring 2015)
  - CSCI 6310 Advanced Data Mining (Fall 2018, Fall 2017)
  - CSCI 6370 Advanced topics in Databases (Fall 2012, Spring 2011, Spring 2010)
  - CSCI 6385 Topics in Artificial Intelligence (Spring 2016, Spring 2013)
  - CSCI 6395 Independent Study (Fall 2016, Spring 2016, Fall 2015, Spring 2014, Fall 2013, Spring 2013, Summer 2011)
  - CSCI 6399 Master's Project/Thesis (Fall 2016, Spring 2016, Fall 2014, Spring 2014, Spring 2013, Fall 2012, Spring 2011, Fall 2010)

- Teaching Evaluation Average Score per Semester

Semester	Average (5.0 scale)	Semester	Average (5.0 scale)
Fall 2009 *(1300, 3330)*	4.23	Fall 2014 *(3330, 3385/5385, 4395, 6399)*	4.68
Spring 2010 *(1300, 5385, 6370)*	3.77	Spring 2015 *(2440, 3330, 5197, 6397)*	4.83
Fall 2010 *(2440, 3330, 3360, 6399)*	3.93	Summer 2015 *(5197)*	4.83
Spring 2011 *(2440, 6370, 6199, 6399)*	4.52	Fall 2015 *(2440, 3330, 6395)*	4.58
Fall 2011 *(2440×2, 3330)*	4.11	Spring 2016 *(3330, 3385/5385, 6385, 6395, 6399)*	4.32
Spring 2012 *(2440, 3330, 4370/5370)*	4.23	Summer 2016 *(2440, 3275, 5397)*	4.21
Summer 2012 *(5197)*	4.33	Fall 2016 *(3330×2, 6395, 6399)*	4.74
Fall 2012 *(2440, 3330, 6370, 6399)*	4.51	Spring 2017 *(Sabbatical Leave)*	N/A
Spring 2013 *(2440, 3330, 6385, 6395, 6399)*	4.79	Fall 2017 *(3330×2, 3V75, 6310)*	4.73
Summer 2013 *(4195)*	4.67	Spring 2018 *(3330×2, 3385, 4395)*	4.48
Fall 2013 *(2440, 3330, 3385/5385, 6395)*	4.62	Summer 2018 *(3V75)*	5.0
Spring 2014 *(2440, 3330, 4395, 6395)*	4.78	Fall 2018 *(3330×2, 6310)*	N/A

Note: *×2: two sections; 3385/5385: a cross-listed course for undergraduates and graduates.*

CURRICULUM DEVELOPMENT

- Advanced data mining CSCI 6310, Fall 2012 – Spring 2014 (graduate course)
- Artificial intelligence CSCI 5385, Spring 2010 (graduate course)

SUPERVISION

- **Students' Honors and Awards**
  - Bryce Nicholson won the outstanding departmental undergraduate thesis award 2015.
  - Bryce Nicholson won the Computer Science Special Recognition Award in 2015 Spring.
  - Xiaoqin Fu won the Acxiom Diversity Scholarship in Jan. 2014.
  - James Stamps won the outstanding departmental graduation award in 2014 Fall.
  - Clifford Tawiah won the outstanding departmental undergraduate thesis award 2014.
  - Clifford Tawiah was selected as an Honorable Mention in the Computing Research Association's (CRA) Outstanding Undergraduate Researcher Award 2014.

- Clifford Tawiah won the travel scholarship from AAAI 2013 (the 27th National Conference on Artificial Intelligence).
- Clifford Tawiah won the Acxiom Diversity Scholarship in Dec. 2012 (one of five).

- **Undergraduate Honor Thesis Advisor**
  - Jason Moix, graduated in May 2015
  - Bryce Nicholson, graduated in May 2015
  - Jonathan Maglievaz, graduated in December 2014
  - James Stamps, graduated in December 2014
  - Clifford A Tawiah, graduated in May 2014
  - Robert K Eichelberger, graduated in May 2014
  - Michael Turney, graduated in Dec. 2013
- **Graduate Thesis/project Committee Chair**
  - Yaying Li (ongoing)
  - James Stamps, graduated in May 2016
  - Xiaoqin Fu, graduated in August 2015
  - Byungkyu Kang, graduated in Dec. 2014
  - Suat Canli, graduated in August 2014
  - Doguscan Sozeri, graduated in August 2013
  - Rahul Tada, graduated in December 2011
  - Abhinav Atla, graduated in August 2011
- **Thesis/project Committee member**
  - James S. Palmer, master student (UCA), graduated in April 2018
  - Padmapriya Jaladi, master student (UCA), graduated in April 2018
  - Alexandr Dementyev, master student (UCA), graduated in Dec. 2017
  - Krizia Buck, master student (UCA), graduated in August 2017
  - Ramakrishna Rama, master student (UCA), graduated in April 2016
  - Valerii Dychok, master student (UCA), graduated in August 2015
  - Olesya Derkach, master student (UCA), graduated in April 2015
  - Christopher Rhodes, master student (UCA), graduated in April 2015
  - Hai Le, master student (UCA), graduated in April 2015
  - Nathan Hotchkiss, master student (UCA), graduated in Dec. 2013
  - Priyatham Anisetty, master student (UCA), graduated in Dec. 2012
  - Muhyeddin Ercan, master student (UCA), graduated in May 2012

- Ben Nordin, master student (UCA), graduated in Jan. 2012
- Vincent Yip, master student (UCA), graduated in May 2009

- **Mentor for NSF REU UCA-Site Projects**
  - Benjamin Castro, Daniel Retherford*, Aaron Crawford May – July 2012
    Research Project: "Novel Approaches for Fetus Risk Predictions"
    * Washington State University at Pullman
  - Lauren Mckim*, Aaron Crawford May – July 2012
    Research Project: "Implementation of Dynamic Time Warping"
    * New Mexico State University
  - Aaron Crawford, Karen Gilmer*, Travis Jones**, Chase Mitchell May – July 2011
    Research Project: "Predicting High Risk Fetuses" (Chosen as the ***REU highlight project*** and presented in the Conference of REU Student Scholarship poster session, Arlington, VA, October 16-17, 2011)
    *Georgia College & State University
    **University of Arkansas at Pine Bluff

- **Co-supervised Ph.D. Students**
  - Huan Rong (Nanjing University of Science and Technology, Oct. 2018 - present)
  - Qingren Wang (Hefei University of Technology, now Assistant Professor at Auhui University)
  - Jing Zhang (Hefei University of Technology, now Associate Professor at Nanjing University of Science and Technology)

- **Co-supervised postdoc**
  - Bin Gu (Western University, now Professor at Nanjing University of Information Science and Technology)

- **Research Scholars**
  - Chaoqun Li (Associate Professor at China University of Geoscience)
  - Zhenyu Xu (Assistant Professor at South-Central University for Nationalities)
  - Jian Wu (Assistant Professor at Soochow University)
  - Xuesong Yan (Associate Professor at China University of Geoscience)