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Appointment

- **University of Massachusetts Dartmouth** Dartmouth, MA
Tenure-Track Assistant Professor *2016 Fall - Present*
 - Department of Computer and Information Science, College of Engineering

Education

- **Northeastern University** Boston, MA
Ph.D. Computer Engineering *2012 - 2016*
 - Department of Electrical and Computer Engineering (Full Scholarship, 4 years)
- **State University of New York at Buffalo** Buffalo, NY
Ph.D. Candidate Computer Science *2010 - 2012*
 - Department of Computer Science and Engineering (Presidential Fellowship, 2 years)
- **Beihang University** Beijing, China
M.Eng. Computer Science *2007 - 2010*
 - School of Computer Science and Engineering (Full Scholarship, 2.5 years)
- **Beihang University** Beijing, China
B.Eng. Computer Science, B.Sc. Applied Maths *2002 - 2007*
 - School of Computer Science and Engineering, School of Science

Research Interests

- **Large-Scale Data Mining and Learning:** Memory Efficient Graph Construction and Approximation, Fast Nearest Neighbor Search, Large-Scale Unsupervised Transfer Learning
- **Social Media Analytics:** Visual Kinship Verification, Automatic Photos Management, Face Beauty Prediction, Occupation Recognition
- **Deep Learning:** Deep Autoencoder for Face Analysis, Deep Low-Rank Transfer Learning, Deep Linear Coding for Clustering
- **Efficient Feature Learning:** Heterogeneous Feature Learning, Unsupervised Feature Selection, Deep Feature Learning, Metric Learning
- **Sparse and Low-Rank Modeling:** Low-Rank Transfer Learning, Sparse Feature Learning, Transfer Learning with Missing Modality

Honors and Awards

- Service-Learning Faculty Fellows at UMass Dartmouth 2016-2018
- Graduate Student Government *Travel Award* 2016

- Thirtieth AAAI Conference on Artificial Intelligence Student *Travel Award* 2015
- *Best Paper Award Candidate* of IEEE International Conference on Multimedia and Expo (4/718) 2014
- *Best Paper Award Candidate* of IEEE Multimedia Communications Technical Committee 2013
- *Best Paper Award* of IEEE ICDM Large Scale Visual Analytics Workshop 2011
- AI Area Scholarship Rank-1, CSE Department, State University of New York at Buffalo 2011
- *Presidential Fellowship*, State University of New York at Buffalo 2010–2012
- Beihang Excellent Graduate (20 in School of Computer Science and Engineering) 2010
- University Excellent Graduate Thesis (50 in Beihang University) 2010
- Exploration Research Award (2 in School of Computer Science and Engineering) 2009
- GUANGHUA Scholarship (20 in School of Computer Science and Engineering) 2008
- Champion of Post Graduate Basketball Game of CSE in Beihang University 2008
- Third Prize for Beihang Excellent Student Cadres 2005
- Third Class Scholarship of Excellent Social Practice of Beihang University 2005
- Axaltos 2005 SIMagine Contest, Global Top 50 (First Author) 2005
- Second Prize for "Feng Ru" Science and Technology Contest of Beihang University 2005
- Third Prize for English Speech Contest of Beihang University 2002

Research Experience

- **Northeastern University/State University of New York at Buffalo** Boston/Buffalo
Research Assistant, Supervisor: Prof. Y. Raymond Fu 2010-2016
 - **Large-Scale Data Mining and Learning:** Proposed a memory efficient large-scale graph approximation method by exploring underlying data structure. Designed a deep linear coding algorithm for fast graph clustering.
 - **Deep Feature Learning:** Designed novel deep learning models for face visual analysis such as face beauty prediction, pose-invariant face recognition. Used deep models to mitigate feature space divergence between visual domains.
 - **Applied Machine Learning on Social Media Analytics:** Built the first cross-age facial image database towards automatic kinship verification. Proposed a novel transfer subspace learning framework to verify kin relationship in family photos. Proposed a joint spatio-appearance max-margin structure learning framework for occupation recognition under social context.
 - **Low-Rank Matrix Constraint and Subspace Learning:** Designed shallow/deep generic transfer subspace learning models under low-rank constraint. Proposed a semi-supervised low-rank embedding model for multi-label learning. Formulated a Schatten 1-Norm PCA towards robust metric learning.
- **Beihang University** Beijing, China
Research Assistant, Supervisor: Prof. Yunhong Wang 2007-2010
 - **Heterogeneous Facial Images Analysis:** Synthesized high-quality face images from low-resolution near infrared face images by Tensorface. Rendered various lightings on faces by "Multi-Spectral Quotient Image" and illumination Tensorfaces. Matched faces from near infrared to visible light by Empirical Model Decomposition (EMD) and Canonical Correlation Analysis (CCA). Proposed an image normalization approach towards illumination-invariant facial feature learning.
- **Beihang University** Beijing, China
Research Assistant, Supervisor: Prof. Depei Qian, Dr. Yongjian Wang 2006
 - Designed and implemented the management model of Service Support Platform.

Work Experience

- **Philips Research North America** Cambridge, MA
05/2016-08/2016
Research Scientist
 – Patient Similarity and Record Retrieval.
- **MITSUBISHI Electric Research Laboratories** Cambridge, MA
05/2014-08/2014
Research Assistant, Mentor: Tim K. Marks, and Mike Jones
 – Action detection and recognition in the long-term videos.
- **Motorola Solutions** Schaumburg, IL
05/2013-08/2013
Research Assistant, Mentor: Dr. Yan Zhang, and Kevin O’Connell
 – Designed and implemented multi-modal biometrics based authentication system.
- **Samsung Advanced Institute of Technology** Beijing, China
05/2010-07/2010
Research Assistant, Mentor: Dr. Tao Wan
 – Benchmark tests of breast tumors classification based on texture or profile feature.
- **Canon Information Technology (Beijing) Co., Ltd.** Beijing, China
09/2009-10/2009
Research Assistant, Mentor: Division Manager of DD1 Xinwu Chen
 – Research on vessel segmentation, optic disc detection, medical image registration, images stitching, lesions detection methods, and fundus databases, e.g., STARE.

Publications

Summary:

- **60+** peer-reviewed research papers, including one *Best Paper Award* in IEEE ICDM LSVA Workshop 2011, and one *Best Paper Award Candidate* in IEEE International Conference on Multimedia and Expo 2014.
- Full research papers published in various prestigious conferences, including *CVPR, ICCV, ECCV, IJCAI, AAAI, SIG-KDD, ICDM, SDM*, etc., and prestigious journals including *4 IEEE TPAMI (2017 impact factor 9.455)*, *1 IJCV (2017 impact factor 11.541)*, *4 IEEE TNNLS (2017 impact factor 7.982)*, *3 IEEE TIP (2017 impact factor 5.071)* etc.
- **1200+** citations; *h-index: 19; i10-index: 26*

Book Chapters

- [B-1] Shuhui Jiang, **Ming Shao**, Caiming Xiong, and Yun Fu, Style Recognition and Kinship Understanding, *Style Recognition and Kinship Understanding*, pages 221–258, Elsevier, 2019.
- [B-2] **Ming Shao**, Dmitry Kit, and Yun Fu, Low-Rank Transfer Learning, *Low-Rank and Sparse Modeling for Visual Analysis*, pages 87–115, Springer, 2014.
- [B-3] **Ming Shao**, Mingbo Ma, and Yun Fu, Sparse Manifold Subspace Learning, *Low-Rank and Sparse Modeling for Visual Analysis*, pages 117–132, Springer, 2014.
- [B-4] Sheng Li, **Ming Shao**, and Yun Fu, Low-Rank Outlier Detection, *Low-Rank and Sparse Modeling for Visual Analysis*, pages 181–202, Springer, 2014.
- [B-5] **Ming Shao**, and Yun Fu, Recognizing Occupations Through Probabilistic Models: A Social View, *Human-Centered Social Media Analytics*, pages 191–206, Springer, 2013.
- [B-6] **Ming Shao**, Siyu Xia, and Yun Fu, Identity and Kinship Relations in Group Pictures, *Human-Centered Social Media Analytics*, pages 175–190, Springer, 2013.

Journal Papers

- [J-1] Hongfu Liu, **Ming Shao**, and Yun Fu, Feature Selection with Unsupervised Consensus Guidance, *IEEE Transactions on Knowledge and Data Engineering (TKDE)*, 2018 (in press).
- [J-2] Zhengming Ding, **Ming Shao**, and Yun Fu, Generative Zero-Shot Learning via Low-Rank Embedded Semantic Dictionary, *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, 2018 (in press).

- [J-3] Hongfu Liu, **Ming Shao**, Zhengming Ding, and Yun Fu, Structure-Preserved Unsupervised Domain Adaptation, *IEEE Transactions on Knowledge and Data Engineering* (TKDE), 2018 (in press)
- [J-4] Joseph P. Robinson, **Ming Shao**, Yue Wu, Hongfu Liu, Timothy Gillis, and Yun Fu., Visual Kinship Recognition of Families in the Wild, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2018 (in press).
- [J-5] Sheng Li, **Ming Shao**, and Yun Fu, Multi-View Low-Rank Analysis with Applications to Outlier Detection, *ACM Transactions on Knowledge Discovery from Data* (TKDD), 2017 (in press).
- [J-6] Chengcheng Jia, **Ming Shao**, Sheng Li, Handong Zhao, and Yun Fu, Stacked Denoising Tensor Auto-Encoder for Action Recognition with Spatiotemporal Corruptions, *IEEE Transactions on Image Processing* (TIP), vol. 27, issue 4, pages 1878–1887, 2018.
- [J-7] Sheng Li, **Ming Shao**, and Yun Fu, Person Re-identification by Cross-View Multi-Level Dictionary Learning, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2017 (in press).
- [J-8] Shuhui Jiang, **Ming Shao**, Chengcheng Jia, and Yun Fu, Learning Consensus Representation for Weak Style Classification, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (TPAMI), 2017 (in press).
- [J-9] Hongfu Liu, **Ming Shao**, Sheng Li, and Yun Fu, Infinite ensemble clustering, *Data Mining and Knowledge Discovery* (DMKD), vol. 32, issue 2, pages 385–416, 2018.
- [J-10] Yu Kong, **Ming Shao**, Kang Li, and Yun Fu, Probabilistic Low-Rank Multi-Task Learning, *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS), vol. 29, issue 3, pages 670–680, 2018.
- [J-11] **Ming Shao**, Yizhe Zhang, and Yun Fu, Collaborative Random Faces Guided Encoders for Pose-Invariant Face Recognition, *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS), vol. 29, issue 4, pages 1019–1032, 2018.
- [J-12] Zhengming Ding, **Ming Shao**, and Yun Fu, Incomplete Multi-Source Transfer Learning, *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS), vol. 29, issue 2, pages 310–323, 2018.
- [J-13] Chengcheng Jia, **Ming Shao**, and Yun Fu, Sparse Canonical Temporal Alignment with Deep Tensor Decomposition for Action Recognition, *IEEE Transactions on Image Processing* (TIP), vol. 26, no. 2, pages 738–750, 2017.
- [J-14] **Ming Shao**, Xindong Wu, and Yun Fu, Scalable Nearest Neighbor Sparse Graph Approximation by Exploiting Graph Structure, *IEEE Transactions on Big Data* (TBD), vol. 2, no. 4, pages 365–380, 2016.
- [J-15] **Ming Shao**, and Yun Fu, Cross-Modality Feature Learning through Generic Hierarchical Hyperlingual-Words, *IEEE Transactions on Neural Networks and Learning Systems* (TNNLS), vol 28, no. 2, pages 451–463, 2017.
- [J-16] Zhengming Ding, **Ming Shao**, and Yun Fu, Missing Modality Transfer Learning via Latent Low-Rank Constraint, *IEEE Transactions on Image Processing* (TIP), vol. 24, no. 11, pages 4322–4334, 2015.
- [J-17] **Ming Shao**, Dmitry Kit, and Yun Fu, Generalized Low-Rank Transfer Subspace Learning, *International Journal on Computer Vision* (IJCV), vol. 109, no. 1-2, pages 74–93, 2014.
- [J-18] Siyu Xia*, **Ming Shao***, Jiebo Luo, and Yun Fu, Understanding Kin Relationships in a Photo, *IEEE Transactions on Multimedia* (TMM), vol. 14, no. 4, pages 1046–1056, 2012. (* indicates equal contribution)

Conference Papers

- [C-1] Chao Xiao, Siyu Xia, **Ming Shao**, and Yun Fu, Album to Family Tree: A Graph based Method for Family Relationship Recognition, *Asian Conference on Computer Vision* (ACCV), 2018 (in press).
- [C-2] Zhengming Ding, **Ming Shao**, Sheng Li, and Yun Fu, Generic Embedded Semantic Dictionary for Robust Multi-label Classification, *IEEE International Conference on Big Knowledge* (ICBK), 2018 (in press).
- [C-3] Zhengming Ding, Sheng Li, **Ming Shao**, and Yun Fu, Graph Adaptive Knowledge Transfer for Unsupervised Domain Adaptation, *European Conference on Computer Vision* (ECCV), pages 37–52, 2018.
- [C-4] Bin Sun, **Ming Shao**, Siyu Xia, and Yun Fu, Deep Evolutionary 3D Diffusion Heat Maps for Large-pose Face Alignment, *British Machine Vision Conference* (BMVC), pages 1–12, 2018.

- [C-5] Chao Xia, Siyu Xia, Yuan Zhou, Le Zhang and **Ming Shao**, Graph based family relationship recognition from a single image, *Pacific Rim International Conference on Artificial Intelligence (PRICAI)*, pages 310–320, 2018.
- [C-6] Zhengming Ding, **Ming Shao**, and Yun Fu, Robust Multi-view Representation: A Unified Perspective from Multi-view Learning to Domain Adaption, *International Joint Conference on Artificial Intelligence (IJCAI)*, Survey track, pages 5434–5440. 2018.
- [C-7] Deepak Kumar, Chetan Kumar, and **Ming Shao**, Cross-Database Mammographic Image Analysis through Unsupervised Domain Adaptation, *2nd International Workshop on Big Data Transfer Learning in Conjunction with IEEE BigData Conference*, pages 4035-4042, 2017.
- [C-8] Changsheng Lu, Siyu Xia, Wanming Huang, **Ming Shao**, and Yun Fu, Circle Detection by Arc-Support Line Segments, *IEEE International Conference on Image Processing (ICIP)*, pages 76–80, 2017.
- [C-9] Junkang Zhang, Siyu Xia, **Ming Shao**, and Yun Fu, Family Photo Recognition via Multiple Instance Learning, *ACM International Conference on Multimedia Retrieval (ICMR)*, pages 424–428, 2017.
- [C-10] Zhengming Ding, **Ming Shao**, and Yun Fu, Low-Rank Embedded Ensemble Semantic Dictionary for Zero-Shot Learning, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2050–2058, 2017.
- [C-11] Hongfu Liu, **Ming Shao**, and Yun Fu, Structure-Preserved Multi-Source Domain Adaptation, in *IEEE International Conference on Data Mining (ICDM)*, pages 1059–1064, 2016.
- [C-12] Zhengming Ding, **Ming Shao**, and Yun Fu, Deep Robust Encoder through Locality Preserving Low-Rank Dictionary, *European Conference on Computer Vision (ECCV)*, pages 567–582, 2016.
- [C-13] Joseph Robinson, **Ming Shao**, Yue Wu, and Yun Fu, Family in the wild (FIW): Large-Scale Kinship Image Database and Benchmarks, *ACM Multimedia Conference (ACM-MM)*, pages 242–246, 2016.
- [C-14] Hongfu Liu, **Ming Shao**, Sheng Li, and Yun Fu, Infinite Ensemble for Image Clustering, *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (SIGKDD)*, pages 1745–1754, 2016.
- [C-15] Bharat Singh , Michael Jones, Tim Marks, Oncel Tuzel, and **Ming Shao**, A Multi-Stream Bi-Directional Recurrent Neural Network for Fine-Grained Action Detection, *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 1961–1970, 2016.
- [C-16] Zhengming Ding, **Ming Shao**, and Yun Fu, Transfer Learning for Image Classification with Incomplete Multiple Sources, *International Joint Conference on Neural Networks (IJCNN)*, pages 2188–2195, 2016.
- [C-17] Chengcheng Jia, **Ming Shao**, and Yun Fu, Sparse Alignment for Video Analysis in Discriminant Tensor Space, *International Joint Conference on Neural Networks (IJCNN)*, pages 2260–2266, 2016.
- [C-18] **Ming Shao**, Zhengming Ding, Handong Zhao, and Yun Fu, Spectral Bisection Tree Guided Deep Adaptive Exemplar Autoencoder for Unsupervised Domain Adaptation, *AAAI Conference on Artificial Intelligence (AAAI)*, pages 2023–2029, 2016.
- [C-19] Shuhui Jiang, **Ming Shao**, Chengcheng Jia, and Yun Fu, Consensus Style Centralizing Auto-encoder for Weak Style Classification, *AAAI Conference on Artificial Intelligence (AAAI)*, pages 1223–1229, 2016.
- [C-20] Hongfu Liu, **Ming Shao**, and Yun Fu, Consensus Guided Unsupervised Feature Selection, *AAAI Conference on Artificial Intelligence (AAAI)*, pages 1874–1880, 2016.
- [C-21] Handong Zhao, Zhengming Ding, **Ming Shao**, and Yun Fu, Part-Level Regularized Semi-Nonnegative Coding for Semi-Supervised Learning, *IEEE International Conference on Data Mining (ICDM)*, pages 1123–1128, 2015.
- [C-22] **Ming Shao**, Sheng Li, Zhengming Ding, and Yun Fu, Deep Linear Coding for Fast Graph Clustering, *International Joint Conferences on Artificial Intelligence (IJCAI)*, pages 3798–3804, 2015.
- [C-23] Sheng Li, **Ming Shao**, and Yun Fu, Cross-View Projective Dictionary Learning for Person Re-identification, *International Joint Conferences on Artificial Intelligence (IJCAI)*, pages 2155–2161, 2015.
- [C-24] Zhengming Ding, **Ming Shao**, and Yun Fu, Deep Low-Rank Coding for Transfer Learning, *International Joint Conferences on Artificial Intelligence (IJCAI)*, pages 3453–3459, 2015.

- [C-25] **Ming Shao**, Zhengming Ding, and Yun Fu, Sparse Low-Rank Fusion based Deep Features for Missing Modality Face Recognition, *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, pages 1–6, 2015.
- [C-26] Sheng Li, **Ming Shao**, and Yun Fu, Multi-view Low-Rank Analysis for Outlier Detection, *SIAM International Conference on Data Mining (SDM)*, pages 748–756, 2015.
- [C-27] Shuyang Wang, **Ming Shao**, and Yun Fu, Attractive or Not? Beauty Prediction with Attractiveness Aware Encoders and Robust Late Fusion, *ACM-Multimedia Conference*, pages 805–808, 2014.
- [C-28] Zhengming Ding, **Ming Shao**, and Yun Fu, Latent Low-Rank Transfer Subspace Learning for Missing Modality Recognition, *AAAI Conference on Artificial Intelligence (AAAI)*, pages 1192–1198, 2014.
- [C-29] **Ming Shao**, Sheng Li, Tongliang Liu, Dacheng Tao, Thomas Huang, and Yun Fu, Learning Relative Features Through Adaptive Pooling For Image Classification, *IEEE International Conference on Multimedia and Expo (ICME)*, pages 1–6, 2014. (**Best Paper Award Candidates, 4 out of 718**)
- [C-30] Sheng Li, **Ming Shao**, and Yun Fu, Locality Linear Fitting One-class SVM with Low-Rank Constraints for Outlier Detection, *International Joint Conference on Neural Networks (IJCNN)*, pages 676–683, 2014.
- [C-31] Yizhe Zhang*, **Ming Shao***, Edward Wong, and Yun Fu, Random Faces Guided Sparse Many-to-One Encoder for Pose-Invariant Face Recognition, *International Conference on Computer Vision (ICCV)*, pages 2416–2423, 2013. (* indicates equal contribution)
- [C-32] **Ming Shao**, Liangyue Li, and Yun Fu, What Do You Do? Occupation Recognition in a Photo via Social Context, *International Conference on Computer Vision (ICCV)*, pages 3631–3638, 2013.
- [C-33] **Ming Shao**, Liangyue Li, and Yun Fu, Predicting Professions through Probabilistic Model under Social Context, *AAAI Conference on Artificial Intelligence (AAAI)*, pages 122–124, 2013.
- [C-34] **Ming Shao**, and Yun Fu, Hierarchical Hyperlingual-Words for Multi-Modality Face Classification, *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, pages 1–6, 2013.
- [C-35] Mingbo Ma, **Ming Shao**, Xu Zhao, and Yun Fu, Prototype Based Feature Learning for Face Image Set Classification, *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, pages 1–6, 2013.
- [C-36] Gaurav Srivastava, **Ming Shao**, and Yun Fu, Low-Rank Embedding for Semisupervised Face Classification, *IEEE International Conference on Automatic Face and Gesture Recognition (FG)*, pages 1–6, 2013.
- [C-37] **Ming Shao**, Carlos Castillo, Zhenghong Gu, and Yun Fu, Low-Rank Transfer Subspace Learning, *IEEE International Conference on Data Mining (ICDM)*, pages 1104–1109, 2012.
- [C-38] Zhenghong Gu, **Ming Shao**, Liangyue Li, and Yun Fu, Discriminative Metric: Schatten Norm vs. Vector Norm, *International Conference on Pattern Recognition (ICPR)*, pages 1213–1216, 2012.
- [C-39] Siyu Xia, **Ming Shao**, and Yun Fu, Toward Kinship Verification Using Visual Attributes, *International Conference on Pattern Recognition (ICPR)*, pages 549–552, 2012.
- [C-40] Wei Chen, **Ming Shao**, and Yun Fu, Clustering Based Fast Low-Rank Approximation for Large-Scale Graph, *IEEE ICDM 2011 Workshop on Large Scale Visual Analytics*, pages, 787–792, 2011. (**Best Paper Award**)
- [C-41] **Ming Shao**, Siyu Xia, and Yun Fu, Genealogical Face Recognition based on UB KinFace Database, *IEEE CVPR Workshop on Biometrics (CVPR’11 BIOM)*, pages 65–70, 2011.
- [C-42] Siyu Xia*, **Ming Shao***, and Yun Fu, Kinship Verification through Transfer Learning, *International Joint Conferences on Artificial Intelligence (IJCAI)*, pages 2539–2544, 2011. (* indicates equal contribution)
- [C-43] **Ming Shao**, Yunhong Wang, and Xue Ling, A BEMD Based Normalization Method for Face Recognition under Variable Illuminations, *International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, pages 1114–1117, 2010.
- [C-44] **Ming Shao**, Yunhong Wang, and Yiding Wang, A Super-Resolution Based Method to Synthesize Visual Images from Near Infrared, *International Conference on Image Processing (ICIP)*, pages 2453–2456, 2009.

- [C-45] **Ming Shao**, Yunhong Wang, and Peijiang Liu, Face Relighting Based on Multi-Spectral Quotient Image and Illumination Tensorfaces, *Asian Conference on Computer Vision (ACCV)*, page 108–117, 2009.
- [C-46] **Ming Shao** and Yunhong Wang, Joint Features for Face Recognition under Variable Illuminations, *International Conference on Image and Graphics (ICIG)*, pages 922–927, 2009.
- [C-47] **Ming Shao** and Yunhong Wang, Recovering Facial Intrinsic Images from a Single Input, *International Conference on Intelligent Computing (ICIC)*, pages 82–91, 2009.

Grants Received

- [G-1] Co-PI, Optimal Design of 3D Printed Polymers using Multiscale Modeling and Machine Learning for Biomedical Implants, UMass Dartmouth Multidisciplinary Seed Funding (MSF), Award: \$29,541.00, 01/01/2018–06/30/2018
- [G-2] Co-PI, Novel Use of Natural Languages Processing (NLP) to Predict Restraint/Seclusion in Psychiatric Nursing Documentation, UMass Dartmouth Multidisciplinary Seed Funding (MSF), Award: \$19,280.00, 01/01/2018–06/30/2018
- [G-3] PI, Data Science in Large-Scale Visual Kinship Understanding via Microsoft Azure Cloud, Microsoft Azure Research Award, \$20,000, 11/01/2017–10/31/2018.
- [G-4] PI, Oculus Rift for Remote Rehabilitation, funded by Leduc Center Small Grant program, \$1,000, May 2017.
- [G-5] PI, Analyzing Social Media thorough Data Analytics, funded under Data Science Course Development program, \$4,000, May 2017.
- [G-6] Deep Learning for Automatic Visual Kinship Understanding, funded by NVIDIA GPU Grant Program, One TITAN X Graphics Card, Mar 2017.
- [G-7] Deep Learning: Representation and Analytics, funded by State Street Data Science Curriculum Enhancement Grant Seed Funding Program for Data-driven Innovation in Engineering, \$5,000, Dec 2016.

Teaching Experience

- Instructor, CIS 360 Algorithms & Data Structure, UMass Dartmouth, 2018 Fall
- Instructor, CIS 550 Advanced Machine Learning, UMass Dartmouth, 2018 Fall
- Instructor, CIS 280 Software Design & Specification, UMass Dartmouth, 2018 Spring
- Instructor, CIS 465 Topics on Computer Vision, UMass Dartmouth, 2017 Fall
- Instructor, CIS 602 Special Topics on Data Mining, UMass Dartmouth 2017 Spring
- Instructor, CIS 599 Graduate Seminar, UMass Dartmouth 2016-2018
- Instructor, CIS 431 Human-Computer Interaction, UMass Dartmouth 2016 Fall
- Future Faculty Seminar: Research-Based Principles for Effective Teaching, Northeastern U 2016 Spring
- Guest Lecturer, EECE 5698: Introduction to Visualization, Northeastern University 2013-2015
- Teaching Assistant, CSE 115/116: Introduction to Computer Science, SUNY at Buffalo 2010-2011
- Guest Lecturer, CSE 678: Face and Gesture Recognition, SUNY at Buffalo 2011 Spring
- Guest Lecturer, CSE 456/556: Introduction to Visualization, SUNY at Buffalo 2010 Fall

Mentoring Experience

Master's Thesis:

- Deepak Kumar, *Cross-View Action Recognition via Joint Dictionary and Transfer Learning*, Master in Data Science Program, UMass Dartmouth (In Progress).

Master's Thesis Committee:

- Justin Lovinger *A TUTORIAL ON SUPERVISED LEARNING FROM THE PERSPECTIVE OF MATHEMATICAL OPTIMIZATION*, May 22, 2018, Advisor: Dr. Iren Valova.
- Akhilesh Bhushan Balaji Prasad Camisetty, *Supporting Streaming Data Exploration and Real-Time Collaboration with Web Application Provenance*, August 15, 2017, Advisor: Dr. David Koop.
- Jay Patel, *Dataflow Notebooks: Enhancing Computational Notebooks*, June 30, 2017, Thesis Advisor: Dr. David Koop.
- Hari Pad Bharti, *Personalized Graph Based Hybrid Recommendation System*, June 16, 2017, Thesis Advisor: Dr. Xiaoqin Zhang.

Master's Project:

- Chetan Kumar, *Skeleton Based Action Recognition using Convolutional Neural Network*, Data Science, UMass Dartmouth, September 2018.
- Javier Arechalde *Student Dropout and Retention Prediction through Machine Learning*, Data Science, UMass Dartmouth, September 2018.
- Akash Bachu *A Comprehensive Study of Text Mining Features and Classifiers*, Data Science, UMass Dartmouth, September 2018.
- Kevin DCruz *A WEB API for an Image Recognition System*, Computer and Information Science Department, UMass Dartmouth, June 2018.
- Tahir Nawaz, *Manifold Visualization for RGB Human Action Data*, Computer and Information Science Department, UMass Dartmouth, August 2017.
- Devansh Gupta, *Better Computer Go Player with Neural Network and Long-Term Prediction*, Computer and Information Science Department, UMass Dartmouth, May 2017.
- Deepak Kumar, *Visual Human Action Recognition through Dense Trajectories*, Master in Data Science Program, UMass Dartmouth, May 2017.
- Kushal Doshi, *Object Recognition with Bag of Words Features and Support Vector Machine*, Computer and Information Science Department, UMass Dartmouth, January 2017.
- Shyam Thakuri, *Online Data Collection System for Visual Kinship Verification*, Computer and Information Science Department, UMass Dartmouth, December 2016.

Academic Talks

- Keynote Speech at 2nd International Workshop on Big Data Transfer Learning in Conjunction with 2017 IEEE BigData Conference, Boston, MA 2017
- Invited Talk at UMass Medical School, Worcester, MA 2017
- Keynote Speech at Workshop on Textual Customer Feedback Mining and Transfer Learning in Conjunction with 2016 IEEE International Conference on Big Data, Washington DC 2016
- Invited Talk at COE Dean's Advisory Council Meeting, UMass Dartmouth, MA 2016
- "Low-Rank Transfer Learning and Its Applications on Social Media Analytics", NVIDIA Research, CA 2016
- "Low-Rank Transfer Learning and Its Applications on Social Media Analytics", UMass Dartmouth, MA 2016
- "Low-Rank Transfer Learning and Its Applications on Social Media Analytics", Philip Research, MA 2016
- AAAI Conference on Artificial Intelligence (AAAI) 2016
- "Low-Rank Transfer Learning and Its Applications on Social Media Analytics", UMass Lowell, MA 2015
- International Joint Conference on Artificial Intelligence (IJCAI) 2015
- Northeastern University ECE PhD Student Seminar Series (NEPSSS) 2015

- Northeastern University Digital Signal Processing (CDSP) Center Research Workshop 2014
- International Conference on Computer Vision (ICCV) 2013
- AAI Conference On Artificial Intelligence (AAAI) 2013
- IEEE International Conference on Data Mining (ICDM) 2012
- ALERT ADSA08 Workshop 2012
- The Second Multimedia and Vision Meeting in the Greater New York Area 2012
- IEEE Computer Society and IEEE Biometrics Council Workshop on Biometrics 2011
- IEEE International Conference on Image Processing (ICIP) 2009
- IEEE Asian Conference on Computer Vision (ACCV) 2009

Professional Services

Editorial Board

- Associate Editor of IEEE Computational Intelligence Magazine (IEEE CIM)
- Associate Editor of Journal of Electronic Imaging (SPIE)

Tutorial

- “Recognizing Families In the Wild” in conjunction with ACM Multimedia Conference 2018
- “Large-Scale Multi-view Learning” in conjunction with IEEE Big Data Conference 2018
- “Multi-view Visual Data Analytics” in conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2018)

Workshop Co-Chair

- 3rd International Workshop on Big Data Transfer Learning (BDTL) in conjunction with 2018 IEEE International Conference on Big Data (BigData 2018)
- The 8th IEEE International Workshop on Analysis and Modeling of Faces and Gestures (AMFG2018) in conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2018)
- Faces in Multimedia Workshop in conjunction with IEEE International Conference on Multimedia and Expo (ICME 2018)
- 2nd Recognizing Families In the Wild (FIW) Data Challenge Workshop in conjunction with IEEE Conference on Automatic Face and Gesture Recognition (FG 2018)
- 2nd International Workshop on Big Data Transfer Learning (BDTL) in conjunction with 2017 IEEE International Conference on Big Data (BigData 2017)
- 7th IEEE International Workshop on Analysis and Modeling of Faces and Gestures (AMFG2017) in conjunction with International Conference on Computer Vision (ICCV 2017)
- 1st Recognizing Families In the Wild (FIW) Data Challenge Workshop in conjunction with ACM Multimedia Conference (ACM-MM 2017)
- Workshop on Textual Customer Feedback Mining and Transfer Learning in conjunction with 2016 IEEE International Conference on Big Data (BigData 2016)

(Senior) Program Committee Member

- IEEE International Conference on Multimedia Information Retrieval and Processing (MIPR), 2018
- Affective Computing and Intelligent Interaction (ACII), 2017

- International Joint Conference on Artificial Intelligence (IJCAI), 2017, 2018
- IEEE International Conference on Automatic Face and Gesture Recognition (FG), 2017–2019
- The AAAI Conference on Artificial Intelligence (AAAI), 2017–2019
- IEEE International Conference on Machine Learning and Applications (ICMLA), 2016–2018
- The 6th IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG2015) in Conjunction with IEEE Conference on Computer Vision and Pattern Recognition (CVPR2015)
- The 6th International Workshop on Video Event Categorization, Tagging and Retrieval towards Big Data, in conjunction with European Conference on Computer Vision (ECCV2014)

Publicity Chair

- The 5th IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG2013) in Conjunction with CVPR2013

Conference(External) Reviewer

- Annual ACM International Conference on Multimedia Retrieval (ICMR) 2016
- Asian Conference on Pattern Recognition (ACPR) 2015
- IEEE Conference on Big Data 2015
- International Conference on Data Mining (ICDM) 2014
- Asian Conference on Computer Vision (ACCV) 2014
- International Conference on Computer Vision (ICCV) 2013
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2013-2015
- European Conference on Computer Vision (ECCV) 2014
- ACM Multimedia (ACM-MM) 2012-2014
- SIAM International Conference on Data Mining (SDM) 2013
- International Conference on Automatic Face and Gesture Recognition (FGR) 2013
- British Machine Vision Conference (BMVC) 2012, 2013
- Workshop on the Applications of Computer Vision (WACV) 2012
- IEEE Workshop on Analysis and Modeling of Faces and Gestures (AMFG) 2015
- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2011-2013
- IEEE International Conference on Multimedia and Expo (ICME) 2011
- International Conference on Pattern Recognition (ICPR) 2010
- IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS) 2012, 2013

Journal Reviewer

- International Journal of Computer Vision (IJCV)
- ACM Transactions on Intelligent Systems and Technology (TIST)
- ACM Transactions on Knowledge Discovery from Data (TKDD)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Neural Network and Learning Systems (TNNLS)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Knowledge Discovery and Engineering (TKDE)
- IEEE Transactions on Transactions on Circuits and Systems for Video Technology (TCSVT)
- IEEE Transactions on Affective Computing (TAFFC)
- IEEE Transactions on Information Forensics and Security (TIFS)
- IEEE Transactions on Multimedia (TMM)
- IEEE Transactions on Cybernetics
- IEEE Transactions on Biomedical Circuits and Systems (TBioCAS)

- IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI)
- Pattern Recognition (PR)
- Information Science
- Pattern Recognition Letter (PRL)
- Neurocomputing
- International Journal of Pattern Recognition and Artificial Intelligence (IJPRAI)
- International Journal of Multimedia Information Retrieval (IJMIR)
- Journal of Multimedia (JMM)
- Journal of Electronic Imaging (JEI)
- Journal of Visual Communication and Image Representation (JVCI)
- Image and Vision Computing (IVC)
- Machine Vision and Applications (MVAP)
- SCIENCE CHINA Information Sciences
- Tsinghua Science and Technology
- Journal of Computer Science and Technology
- The Visual Computer

Professional Associations

- Institute of Electrical and Electronics Engineers (IEEE)
- Association for Computing Machinery (ACM)

Computer&Skills

- **Operation System:** Windows, Linux (Ubuntu), OSX
- **Software:** Microsoft Office Series, Visual Studio, Eclipse, XCode
- **Program Languages:**
 - Proficient: C, C#, Java, Matlab, L^AT_EX
 - Familiar with: C++, ASP.net, Python, OpenCV, Hadoop, Spark, HTML, CSS