Xiaojun **Chang**

COMPUTER VISION · MACHINE LEARNING · MULTIMEDIA

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"Make the change that you want to see in the world."

Education

Centre for Quantum Computation and Intelligent Systems, University of Technology Sydney — *Sydney, Australia*

PH.D IN COMPUTER SCIENCE — *Jul. 2015 - Aug. 2016*

- Supervisor: Dr. Yi Yang [yi.yang@uts.edu.au]

School of Information Technology and Electrical Engineering, The University of Queensland — *Brisbane, Australia*

PH.D IN COMPUTER SCIENCE — *Oct. 2012 - June. 2015*

- Supervisor: Dr. Yi Yang [yi.yang@uts.edu.au]

College of Information Science and Technology, Northwest University — *Xian, China*

M.S. IN COMPUTER SCIENCE — *Sep. 2008 - Jun. 2011*

- Supervisor: Dr. Jun Guo [guojun@nwu.edu.cn]

Department of Physics, Northwest University — *Xian, China*

B.S. IN THEORETICAL PHYSICS — *Sep. 2004 - Jun. 2008*

- Supervisor: Dr. Zhengjun Zhang [zhangzj@nwu.edu.cn]

Employment History

Monash University — *Melbourne, AU*

SENIOR LECTURER (A.K.A. ASSISTANT PROFESSOR) AND DECRA FELLOW — *Jul. 2020 - Now*

Monash University — *Melbourne, AU*

LECTURER (A.K.A. ASSISTANT PROFESSOR) AND DECRA FELLOW — *Dec. 2018 - Jun. 2020*

Carnegie Mellon University — *Pittsburgh, US*

POSTDOCTORAL RESEARCH ASSOCIATE — *Aug. 2016 - Nov. 2018*

Carnegie Mellon University — *Pittsburgh, US*

VISITING STUDENT — *Mar. 2014 - Aug. 2016*

Oracle Asia Research & Development Center — *Beijing, China*

SOFTWARE ENGINEER — *Jul. 2011 - Sep. 2012*

IBM China Development Lab — *Beijing, China*

SOFTWARE ENGINEER INTERN — *Sep. 2009 - Jun. 2011*

Grants

Australian Research Council — *AUD 393,000*

TOWARDS DATA-EFFICIENT FUTURE ACTION PREDICTION IN THE WILD — *2019.01 - 2021.12*

- **Xiaojun Chang**

Defense Advanced Research Projects Agency (DARPA) — *AUD 4,606,216.00*

LEARNING TO LEARN AND ADAPT WITH LESS LABELS — *2019.01 - 2021.12*

- Reza Haffari, Wray Buntine, Dinh Phung, Geoff Webb, **Xiaojun Chang**

The MITRE Corporation (Grant No. 113809) — *USD 600,000*

INTEGRATION AND TRANSITION OF ALADDIN VIDEO SOFTWARE — *2016.09 - 2018.01*

- Alexander G. Hauptmann, **Xiaojun Chang**, and Eric Riebling

Selected Publications

Journal [* indicates corresponding author]

Pair-based Uncertainty and Diversity Promoting Early Active Learning for Person Re-identification *2018 IF: 2.861*

Wenhe Liu, **Xiaojun Chang**, Ling Chen, Dinh Phung, Xiaoqin Zhang, Yi Yang, Alexander G. Hauptmann

- ACM TIST 11(2): 21:1-21:15 (2020)

Deep Top-k Ranking for Image-Sentence Matching *2018 IF: 5.452*

Lingling Zhang, Minnan Luo, Jun Liu, **Xiaojun Chang**, Yi Yang, Alexander G. Hauptmann

- IEEE Trans. Multimedia 22(3): 775-785 (2020)

Zero-shot event detection via event-adaptive concept relevance mining *2018 IF: 5.898*

Zhihui Li, Lina Yao, **Xiaojun Chang**, Kun Zhan, Jiande Sun, Huaxiang Zhang

- Pattern Recognit. 88: 595-603 (2019)

Scheduled sampling for one-shot learning via matching network *2018 IF: 5.898*

Lingling Zhang, Jun Liu, Minnan Luo, **Xiaojun Chang**, Qinghua Zheng, Alexander G. Hauptmann

- Pattern Recognit. 96 (2019)

Ensemble Teaching for Hybrid Label Propagation *2018 IF: 11.47*

Chen Gong, Dacheng Tao, **Xiaojun Chang**, Jian Yang

- IEEE Trans. Cybernetics 49(2): 388-402 (2019)

Adaptive Structure Discovery for Multimedia Analysis Using Multiple Features *2018 IF: 11.47*

Kun Zhan, **Xiaojun Chang**, Junpeng Guan, Ling Chen, Zhigang Ma, Yi Yang

- IEEE Trans. Cybernetics 49(5): 1826-1834 (2019)

Discrete Multi-Graph Clustering *2018 IF: 6.79*

Minnan Luo, Caixia Yan, Qinghua Zheng, **Xiaojun Chang**, Ling Chen, Feiping Nie

- IEEE Trans. Image Processing 28(9): 4701-4712 (2019)

Adaptive Semi-Supervised Feature Selection for Cross-Modal Retrieval *2018 IF: 5.452*

En Yu, Jiande Sun, Jing Li, **Xiaojun Chang**, Xian-Hua Han, Alexander G. Hauptmann

- IEEE Trans. Multimedia 21(5): 1276-1288 (2019)

MMALFM: Explainable Recommendation by Leveraging Reviews and Images *2018 IF: 2.312*

Zhiyong Cheng, **Xiaojun Chang**, Lei Zhu, Rose Catherine Kanjirathinkal, Mohan S. Kankanhalli

- ACM Trans. Inf. Syst. 37(2): 16:1-16:28 (2019)

Semantic Pooling for Complex Event Analysis in Untrimmed Videos *2016 IF: 8.329*

Xiaojun Chang, Yao-Liang Yu, Yi Yang and Eric P. Xing *ESI Highly Cited, Hot*

- IEEE Transactions on Pattern Analysis and Machine Intelligence, 39(8): 1617-1632, 2017.
- FoR code: 080101: 50%; 080104: 50%

Bi-Level Semantic Representation Analysis for Multimedia Event Detection *2016 IF: 7.384*

Xiaojun Chang, Zhigang Ma, Yi Yang, Zhiqiang Zeng and Alexander G. Hauptmann *ESI Highly Cited, Hot*

- IEEE Transactions on Cybernetics, 47(5): 1180-1197, 2017.
- FoR code: 080101: 50%; 080104: 50%

Joint Attributes and Event Analysis for Multimedia Event Detection

2016 IF: 6.108

Zhigang Ma, **Xiaojun Chang***, Zhongwen Xu, Nicu Sebe and Alexander G. Hauptmann

- IEEE Transactions on Neural Networks and Learning Systems, DOI: 10.1109/TNNLS.2017.2709308, 2017.
- FoR code: 080101: 50%; 080104: 50%

The Many Shades of Negativity

2016 IF: 3.509

ESI Highly Cited, Hot

Zhigang Ma, **Xiaojun Chang***, Yi Yang, Nicu Sebe and Alex Hauptmann

- IEEE Transactions on Multimedia, 19(7): 1558-1568, 2017.
- FoR code: 080101: 50%; 080104: 50%

Feature Interaction Augmented Sparse Learning for Fast Kinect Motion Detection

2016 IF: 4.828

ESI Highly Cited, Hot

Xiaojun Chang, Zhigang Ma, Ming Lin, Yi Yang and Alexander G. Hauptmann

- IEEE Transactions on Image Processing, 26(8): 3911-3920, 2017.
- FoR code: 080101: 50%; 080104: 50%

Simple to Complex Cross-modal Learning to Rank

2016 IF: 2.498

Minnan Luo, **Xiaojun Chang***, Zhihui Li, Liqiang Nie, Alexander G. Hauptmann, and Qinghua Zheng

- Computer Vision and Image Understanding, DOI: 10.1016/j.cviu.2017.07.001, 2017.
- FoR code: 080101: 50%; 080104: 50%

Fast and Orthogonal Locality Preserving Projections for Dimensionality Reduction

2016 IF: 4.828

Rong Wang, Feiping Nie, Richang Hong, **Xiaojun Chang**, Xiaojun Yang and Xuelong Li

- IEEE Transactions on Image Processing, 26(10): 5019-5030, 2017.
- FoR code: 080101: 50%; 080104: 50%

Beyond Trace Ratio: Weighted Harmonic Mean of Trace Ratios for Multiclass Discriminant Analysis

2016 IF: 3.438

Zhihui Li, Feiping Nie, **Xiaojun Chang** and Yi Yang

- IEEE Transactions on Knowledge and Data Engineering, DOI: 10.1109/TKDE.2017.2728531, 2017.
- FoR code: 080101: 50%; 080104: 50%

Adaptive Unsupervised Feature Selection with Structure Regularization

2016 IF: 6.108

Minnan Luo, Feiping Nie, **Xiaojun Chang***, Yi Yang, Alexander G. Hauptmann and Qinghua Zheng

- IEEE Transactions on Neural Networks and Learning Systems, DOI: 10.1109/TNNLS.2017.2650978, 2017.
- FoR code: 080101: 50%; 080104: 50%

An Adaptive Semisupervised Feature Analysis for Video Semantic Recognition

2016 IF: 7.384

ESI Highly Cited

Minnan Luo, **Xiaojun Chang***, Liqiang Nie, Yi Yang, Alexander G. Hauptmann and Qinghua Zheng

- IEEE Transactions on Cybernetics, DOI: 10.1109/TCYB.2017.2647904, 2017.
- FoR code: 080101: 50%; 080104: 50%

Learning Multiple Diagnosis Codes for ICU Patients with Local Disease Correlation Mining

2016 IF: 1.895

Sen Wang, Xue Li, **Xiaojun Chang***, Lina Yao, Quan Z. Sheng and Guodong Long

- ACM Transactions on Knowledge Discovery from Data 29(4): 1124-1150, 2017.
- FoR code: 080101: 50%; 080104: 50%

Revealing Event Saliency in Unconstrained Video Collection

2016 IF: 4.828

ESI Highly Cited, Hot

Dingwen Zhang, Junwei Han, Lu Jiang, Senmao Ye and **Xiaojun Chang**

- IEEE Transactions on Image Processing 26(4): 1746-1758, 2017.
- FoR code: 080101: 50%; 080104: 50%

Avoiding Optimal Mean L21-norm Maximization based Robust PCA for Reconstruction

2016 IF: 1.938

Minnan Luo, Feiping Nie, **Xiaojun Chang**, Yi Yang, Alexander G. Hauptmann, Qinghua Zheng

- Neural Computation 29(4): 1124-1150, 2017.
- FoR code: 080101: 50%; 080104: 50%

Semisupervised Feature Analysis by Mining Correlations among Multiple Tasks

2016 IF: 6.108

Xiaojun Chang and Yi Yang

- IEEE Transactions on Neural Networks and Learning Systems, DOI: 10.1109/TNNLS.2016.2582746, 2016.
- FoR code: 080101: 50%; 080104: 50%

Convex Sparse PCA for Unsupervised Feature Analysis

2016 IF: 1.895

Xiaojun Chang, Feiping Nie, Yi Yang, Chengqi Zhang and Heng Huang

- ACM Transactions on Knowledge Discovery from Data 11(1): 3:1-3:16, 2016.
- FoR code: 080101: 50%; 080104: 50%

Diagnosis Code Assignment Using Sparsity-Based Disease Correlation Embedding

2016 IF: 3.438

Sen Wang, **Xiaojun Chang**, Xue Li, Guodong Long, Lina Yao and Quan Z. Sheng

- IEEE Transactions on Knowledge and Data Engineering 28(12): 3191-3202, 2016.
- FoR code: 080101: 50%; 080104: 50%

Modeling Disease Progression via Multisource Multitask Learners: A Case Study With Alzheimer's Disease

2016 IF: 6.108

Liqiang Nie, Luming Zhang, Lei Meng, Xuemeng Song, **Xiaojun Chang** and Xuelong Li

- IEEE Transactions on Neural Networks and Learning Systems, DOI: 10.1109/TNNLS.2016.2520964, 2016.
- FoR code: 080101: 50%; 080104: 50%

Multiview Physician-Specific Attributes Fusion for Health Seeking

2016 IF: 7.384

Liqiang Nie, Luming Zhang, Yan Yan, **Xiaojun Chang**, Maofu Liu, and Ling Shao

- IEEE Transactions on Cybernetics, DOI: 10.1109/TCYB.2016.2577590, 2016.
- FoR code: 080101: 50%; 080104: 50%

Compound Rank-k Projections for Bilinear Analysis

2016 IF: 6.108
ESI Highly Cited, Hot

Xiaojun Chang, Feiping Nie, Sen Wang, Yi Yang, Xiaofang Zhou, Chengqi Zhang

- IEEE Transactions on Neural Networks and Learning Systems 27(7): 1502-1513, 2016.
- FoR code: 080101: 50%; 080104: 50%

Multi-Class Active Learning by Uncertainty Sampling with Diversity Maximization

2016 IF: 8.222
ESI Highly Cited

Yi Yang, Zhigang Ma, Feiping Nie, **Xiaojun Chang**, and Alexander G. Hauptmann

- Internaltional Journal of Computer Vision 113(2): 113-127, 2015.
- FoR code: 080101: 50%; 080104: 50%

Conference

Unsupervised Multimodal Neural Machine Translation with Pseudo Visual Pivoting

CORE Rank A*, CCF A

Po-Yao Huang, Junjie Hu, **Xiaojun Chang** and Alexander Hauptmann

- ACL 2020

Vision-language Navigation with Self-Supervised Auxiliary Reasoning Tasks

CORE Rank A*, CCF A

Fengda Zhu, Yi Zhu, **Xiaojun Chang**, Xiaodan Liang

- CVPR 2020

ZSTAD: Zero-Shot Temporal Activity Detection

CORE Rank A*, CCF A

Lingling Zhang, **Xiaojun Chang**, Jun Liu, Sen Wang, Zongyuan Ge, Minnan Luo, Alexander Hauptmann

- CVPR 2020

Unity Style Transfer for Person Re-Identification

CORE Rank A*, CCF A

Chong Liu, **Xiaojun Chang**, Yi-Dong Shen

- CVPR 2020

Neural Architecture Search by Block-wisely Distilling Architecture Knowledge

CORE Rank A*, CCF A

Changlin Li, Jiefeng Peng, Liuchun Yuan, Guangrun Wang, Xiaodan Liang, Liang Lin, **Xiaojun Chang**

- CVPR 2020

Vision Dialogue Navigation by Exploring Cross-modal Memory

CORE Rank A*, CCF A

Yi Zhu, Fengda Zhu, Zhao huan Zhan, Bingqian Lin, Jianbin Jiao, **Xiaojun Chang**, Xiaodan Liang

- CVPR 2020

Overcoming Multi-Model Forgetting in One-Shot NAS with Diversity Maximization

CORE Rank A*, CCF A

Miao Zhang, Huiqi Li, Shirui Pan, **Xiaojun Chang**, Steven Su

- CVPR 2020

Multi-Head Attention with Diversity for Learning Grounded Multilingual Multimodal Representations

CORE Rank A, CCF A

Po-Yao Huang, **Xiaojun Chang**, Alexander G. Hauptmann

- EMNLP 2019

Annotation Efficient Cross-Modal Retrieval with Adversarial Attentive Alignment

CORE Rank A*, CCF A

Po-Yao Huang, Guoliang Kang, Wenhe Liu, **Xiaojun Chang**, Alexander G. Hauptmann

- ACM MM 2019

RCAA: Relational Context-Aware Agents for Person Search

CORE Rank A, CCF B

XIAOJUN CHANG, PO-YAO HUANG, YI-DONG SHEN, XIAODAN LIANG, YI YANG AND ALEX HAUPTMANN

- European Conference on Computer Vision, ECCV 2018.
- FoR code: 080101: 50%; 080104: 50%

Reinforcement Cutting-Agent Learning for Video Object Segmentation

CORE Rank A*, CCF A

JUNWEI HAN, LE YANG, DINGWEN ZHANG, XIAOJUN CHANG, AND XIAODAN LIANG, CVPR 2018.

- IEEE International Conference on Computer Vision and Pattern Recognition, CVPR 2018.
- FoR code: 080101: 50%; 080104: 50%

Robust Top-k Multi-class SVM for Visual Category Recognition

CORE Rank A*, CCF A

XIAOJUN CHANG, YAO-LIANG YU AND YI YANG

- ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, KDD 2017.
- FoR code: 080101: 50%; 080104: 50%

Complex Event Detection by Identifying Reliable Shots from Untrimmed Videos

ERA Rank A*, CCF A

HEHE FAN, XIAOJUN CHANG, DE CHENG, YI YANG, DONG XU, AND ALEXANDER G. HAUPTMANN

- IEEE International Conference on Computer Vision, ICCV 2017.
- FoR code: 080101: 50%; 080104: 50%

Exploring Consistent Preferences: Discrete Hashing with Pair-Exemplar for Scalable Landmark Search

ERA Rank A*, CCF A

LEI ZHU, ZI HUANG, XIAOJUN CHANG, JINGKUAN SONG, AND HENG TAO SHEN

- ACM International Conference on Multimedia, ACM MM, 2017.
- FoR code: 080101: 50%; 080104: 50%

Top-k Supervise Feature Selection via ADMM for Integer Programming

ERA Rank A*, CCF A

MINYU FAN, XIAOJUN CHANG, XIAOQIN ZHANG, DI WANG AND LIANG DU

- International Joint Conference on Artificial Intelligence, IJCAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Discriminative Dictionary Learning With Ranking Metric Embedded for Person Re-Identification

ERA Rank A*, CCF A

DE CHENG, XIAOJUN CHANG, LI LIU, ALEXANDER G. HAUPTMANN, YIHONG GONG AND NANNING ZHENG

- International Joint Conference on Artificial Intelligence, IJCAI 2017.
- FoR code: 080101: 50%; 080104: 50%

How Unlabeled Web Videos Help Complex Event Detection?

ERA Rank A*, CCF A

HUAN LIU, QINGHUA ZHENG, MINNAN LUO, DINGWEN ZHANG, XIAOJUN CHANG AND CHENG DENG

- International Joint Conference on Artificial Intelligence, IJCAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Self-paced Mixture of Regression

ERA Rank A*, CCF A

LONGFEI HAN, DINGWEN ZHANG, DONG HUANG, XIAOJUN CHANG, SENLIN LUO, JUN REN AND JUNWEI HAN

- International Joint Conference on Artificial Intelligence, IJCAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Adaptive Semi-Supervised Learning with Discriminative Least Squares Regression

ERA Rank A*, CCF A

MINNAN LUO, LINGLING ZHANG, FEIPING NIE, XIAOJUN CHANG, BUYUE QIAN AND QINGHUA ZHENG

- International Joint Conference on Artificial Intelligence, IJCAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Structure Regularized Unsupervised Discriminant Feature Analysis

ERA Rank A*, CCF A

MINGYU FAN, XIAOJUN CHANG AND DACHENG TAO

- Thirty-first Conference on Artificial Intelligence, AAAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Probabilistic Non-negative Matrix Factorization and its Robust Extensions for Topic Modeling

ERA Rank A*, CCF A

MINNAN LUO, FEIPING NIE, XIAOJUN CHANG, YI YANG, ALEXANDER G. HAUPTMANN, AND QINGHUA ZHENG

- Thirty-first Conference on Artificial Intelligence, AAAI 2017.
- FoR code: 080101: 50%; 080104: 50%

Multi-view Correlated Feature Learning by Uncovering Shared Component

ERA Rank A*, CCF A

XIAOWEI XUE, FEIPING NIE, SEN WANG, XIAOJUN CHANG, BELA STANTIC AND MIN YAO

- Thirty-first Conference on Artificial Intelligence, AAAI 2017.
- FoR code: 080101: 50%; 080104: 50%

They Are Not Equally Reliable: Semantic Event Search using Differentiated Concept Classifiers

ERA Rank A, CCF A

Xiaojun Chang, Yao-Liang Yu, Yi Yang and Eric P. Xing

- IEEE Conference on Computer Vision and Pattern Recognition, CVPR 2016.
- FoR code: 080101: 50%; 080104: 50%

Dynamic Concept Composition for Zero-Example Event Detection

ERA Rank A*, CCF A

Xiaojun Chang, Yi Yang, Guodong Long, Chengqi Zhang and Alexander G. Hauptmann

- Thirtieth Conference on Artificial Intelligence, AAAI 2016.
- FoR code: 080101: 50%; 080104: 50%

Avoiding Optimal Mean Robust PCA/2DPCA with Non-greedy L1-norm Maximization

ERA Rank A*, CCF A

Minnan Luo, Feiping Nie, Xiaojun Chang, Yi Yang and Alexander G. Hauptmann

- International Joint Conference on Artificial Intelligence, IJCAI 2016.
- FoR code: 080101: 50%; 080104: 50%

Searching Persuasively: Joint Event Detection and Evidence Recounting with Limited Supervision

ERA Rank A*, CCF A

Xiaojun Chang, Yao-Liang Yu, Yi Yang and Alexander G. Hauptmann

- ACM International Conference on Multimedia, ACM MM 2015.
- FoR code: 080101: 50%; 080104: 50%

Complex Event Detection using Semantic Saliency and Nearly-Isotonic SVM

ERA Rank A*, CCF A

Xiaojun Chang, Yi Yang, Eric P. Xing and Yao-Liang Yu

- International Conference on Machine Learning, ICML 2015.
- FoR code: 080101: 50%; 080104: 50%

Semantic Concept Discovery for Large-Scale Zero-Shot Event Detection

ERA Rank A*, CCF A

Xiaojun Chang, Yi Yang, Alexander G. Hauptmann, Eric P. Xing and Yao-Liang Yu

- International Joint Conference on Artificial Intelligence, IJCAI 2015.
- FoR code: 080101: 50%; 080104: 50%

A Convex Formulation for Spectral Shrunk Clustering

ERA Rank A*, CCF A

Xiaojun Chang, Feiping Nie, Zhigang Ma, Yi Yang and Xiaofang Zhou

- Twenty-Ninth Conference on Artificial Intelligence, AAAI 2015.
- FoR code: 080101: 50%; 080104: 50%

A Convex Formulation for Semi-Supervised Multi-Label Feature Selection

ERA Rank A*, CCF A

Xiaojun Chang, Feiping Nie, Yi Yang and Heng Huang

- Twenty-Eighth Conference on Artificial Intelligence, AAAI 2014.
- FoR code: 080101: 50%; 080104: 50%

Uncovering Locally Discriminative Structure for Feature Analysis

ERA Rank A, CCF B

Sen Wang, Feiping Nie, Xiaojun Chang, Xue Li, Quan Z. Sheng and Lina Yao

- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, ECML/PKDD 2016.
- FoR code: 080101: 50%; 080104: 50%

Unsupervised Feature Analysis with Class Margin Optimization

ERA Rank A, CCF B

Sen Wang, Feiping Nie, Xiaojun Chang, Lina Yao, Xue Li and Quan Z. Sheng

- European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases, ECML/PKDD 2015.
- FoR code: 080101: 50%; 080104: 50%