Fuhai Chen

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RESEARCH INTEREST

Computer vision, natural language processing, multimedia, and machine learning, especially on vision-language/multimedia content understanding, multi-modal structured semantic modeling, language-guided video grounding and their applications (like multimedia sentiment analysis, human-computer interaction and medical diagnostic report generation).

EDUCATION

Ph.D. of Artificial Intelligence 2016.09 - 2020.09
Xiamen University (XMU), Xiamen, China
Advisor: Rongrong Ji

Master of Pattern Recognition and Systems Engineering 2014.09 - 2016.06
Xiamen University (XMU), Xiamen, China
Advisor: Rongrong Ji

Bachelor of Artificial Intelligence 2010.09 - 2014.06
Xiamen University (XMU), Xiamen, China

PUBLICATION

Jiayi Ji, Yunpeng Luo, Xiaoshuai Sun, **Fuhai Chen**, Gen Luo, Yongjian Wu, Yue Gao, Rongrong Ji. Improving Image Captioning by Leveraging Intra- and Inter-layer Global Representation in Transformer Network. Proceedings of the AAAI Conference on Artificial Intelligence 2021 (AAAI 2021).

Jiayi Ji, Xiaoshuai Sun, Yiyi Zhou, Rongrong Ji, **Fuhai Chen**, Jianzhuang Liu, Qi Tian. Attacking Image Captioning Towards Accuracy-Preserving Target Words Removal. ACM International Conference on Multimedia 2020 (ACM MM 2020).

Fuhai Chen, Rongrong Ji, Jiayi Ji, Xiaoshuai Sun, Baochang Zhang, Xuri Ge, Yongjian Wu, Feiyue Huang, Yan Wang. Variational Structured Semantic Inference for Diverse Image Captioning. Advances in Neural Information Processing Systems 2019 (NeurIPS 2019).

Xuri Ge, **Fuhai Chen**, Chen Shen, Rongrong Ji. Colloquial Image Captioning. IEEE International Conference on Multimedia and Expo 2019 (ICME 2019).

Zongyue Liu, **Fuhai Chen**, Jinsong Su, Chen Shen, Rongrong Ji. Topic-Guided Automatical Human-Simulated Tweeting System. Pacific Rim International Conference on Artificial Intelligence 2018 (PRICAI 2018).

Fuhai Chen, Rongrong Ji, Xiaoshuai Sun, Yongjian Wu, Jinsong Su. GroupCap: Group-based Image Captioning with Structured Relevance and Diversity Constraints. IEEE Conference on Computer Vision and Pattern Recognition 2018 (CVPR 2018).

Rongrong Ji, **Fuhai Chen**, Liujuan Cao, Yue Gao. Cross-Modality Microblog Sentiment Prediction via Bi-Layer Multimodal Hypergraph Learning. IEEE Transactions on Multimedia, 21(4): 1062-1075, 2018.

Mingliang Xu, **Fuhai Chen**, Lu Li, Chen Shen, Pei Lv, Bing Zhou, Rongrong Ji. Bio-Inspired Deep Attribute Learning Towards Facial Aesthetic Prediction. IEEE Transactions on Affective Computing, DOI: 10.1109/TAFFC.2018.2868651, 2018.

Fuhai Chen, Rongrong Ji, Jinsong Su, Donglin Cao, and Yue Gao. Predicting Microblog Sentiments via Weakly Supervised Multi-Modal Deep Learning. IEEE Transactions on Multimedia, 20(4): 997-1007, 2017.

Fuhai Chen, Rongrong Ji, Jinsong Su, Yongjian Wu, Yunsheng Wu. StructCap: Structured Semantic Embedding for Image Captioning. ACM International Conference on Multimedia 2017 (ACM MM 2017).

Rongrong Ji, Donglin Cao, Yiyi Zhou, **Fuhai Chen**. Survey of visual sentiment prediction for social media analysis. Frontiers of Computer Science, 10(4): 602-611, 2016.

Yue Gao, Weizhi Nie, Anan Liu, Yuting Su, Qionghai Dai, Le An, **Fuhai Chen**, et al. 3D object retrieval with multimodal views. Eurographics Workshop on 3D Object Retrieval 2016 (Eurographics 2016).

Fuhai Chen, Rongrong Ji, Liujuan Cao. Multimodal learning for view-based 3D object classification. Neurocomputing, 195: 23-29, 2016.

Chao Chen, **Fuhai Chen**, Donglin Cao, Rongrong Ji. A cross-media sentiment analytics platform for microblog. ACM International Conference on Multimedia 2015 (ACM MM 2015).

Fuhai Chen, Yue Gao, Donglin Cao, Rongrong Ji. Multimodal hypergraph learning for microblog sentiment prediction. IEEE International Conference on Multimedia and Expo 2015 (ICME 2015).

Fei Chao, **Fuhai Chen**, Yunhang Shen, Wenli He, Yan Sun, Zhengshuai Wang, Changle Zhou, Min Jiang. Robotic free writing of Chinese characters via human-robot interactions. International journal of humanoid robotics, 11(01): 1450007, 2014.

Pre-print	**Fuhai Chen**, Rongrong Ji*, Chengpeng Dai, Xiaoshuai Sun, Chia-Wen Lin, Jiayi Ji, Baochang Zhang, Feiyue Huang, Liujuan Cao. Semantic-aware Image Deblurring. ArXiv:1910.03853.

Chen Shen, Rongrong Ji, **Fuhai Chen**, Xiangming Li. Scene-based Factored Attention for Image Captioning. ArXiv:1908.02632.

Fuhai Chen, Xiaoshuai Sun*, Xuri Ge, Jianzhuang Liu, Yongjian Wu, Feiyue Huang, Rongrong Ji. Differentiated Relevances Embedding for Group-based Referring Expression Comprehension. *under review.*

RESEARCH EXPERIENCE	*Research Fellow of Computer Vision*	2020.10 - PRESENT

National University of Singapore (NUS), Singapore
Advisor: Angela Yao
- Weakly-supervised Relation Grounding in Video
- Weakly-supervised Video Action Anticipation
- Semi-supervised Video Segmentation

Research Intern of Self-health   2019.05 - 2019.11
Peng Cheng Laboratory (PCL), Shenzhen, China Department: Artificial Intelligence
Research Center
- Structured Knowledge (Abnormity) Graph Construction of Multi-view Medical
  Images
- Automatic Ultrasound Diagnostic Report Generation

ACTIVITIES   Organizing committee of AutoGen-CDR19 challenge in MICCAI 2019.

Reviewer: IEEE TMM, ACM TOMM, NePL, NCIG 2018.

TALKS   StructCap: Structured Semantic Embedding for Image Captioning, The 27th ACM
International Conference on Multimedia (ACM MM 2017), Mountain View, USA,
2017.

Automatic Generation of Cardiovascular Diagnostic Report, The 22th Medical Image
Computing Computer Assisted Intervention (MICCAI 2019), Shenzhen, China, 2019.

AWARDS

National Scholarship, China	2018
Highlights in SHREC Track "3D Object Retrieval with Multimodal Views"	2015
Best Graduate, XMU	2014
Academic Excellence Scholarship, XMU	2014
Award of Innovation and Entrepreneurship Training Project, XMU	2014
Academic Innovation Scholarship, XMU	2014
National "Huawei Cup" Intelligent Design Competition (1st class), China	2013
Merit Student Award, XMU	2013
National "Freescale Cup" Smart Car Competition (2nd class), China	2012
Outstanding Merit Student Award, XMU	2011
National Scholarship, China	2011

Other awards including:

"Lu yan" Scholarship, XMU	2018
ICBC Scholarship, XMU	2016
CMBC-Struggle Scholarship, XMU	2013
Digital Campus (2nd class), XMU	2012
Robot Splicing Competition (2nd class), XMU	2011

PROGRAM   Proficiency with Python, C/C++, Matlab, Java.
SKILLS   Experienced in PHP, Javascript, HTML, C#.