Zheng-yuan Yang

Department of Computer Science, University of Rochester, Rochester, NY

(585) 435-3638 | zyang39@cs.rochester.edu | cs.rochester.edu/u/zyang39 | zyang-ur | zyang | Scholar

Research Summary

My primary research interest is **vision+language** (e.g., visual grounding, tracking by language). I've also worked on human-centered visual understanding (e.g., human action recognition, part parsing). I have published in top CV and NLP conferences such as **CVPR, ICCV, ECCV, ACL**, etc. I've received the **2020 Twitch Research Fellowship** and the **ICPR 2018 Best Industry Related Paper Award**.

Research areas of specialty: vision+language, multimodal learning, video understanding

Education

University of Rochester   *Rochester, New York*
PH.D. IN COMPUTER SCIENCE   GPA: 3.94/4.0   ADVISOR: PROF. JIEBO LUO   *2016 - June. 2021 (Expected)*

University of Science and Technology of China   *Hefei, China*
B.E. IN ELECTRONIC ENGINEERING AND INFORMATION SCIENCE   GPA: 3.93/4.3   *2012 - 2016*

Work Experience

Microsoft Research   *Redmond, WA*
RESEARCH INTERN   SUPERVISOR: DR. YIJUAN LU, DR. JIANFENG WANG, DR. XI YIN   *May 2020 to Aug 2020*
- TextVQA and TextCaption.
- One paper (CVPR 2021a) resulted from this project.

Tencent AI Lab at Bellevue   *Bellevue, WA*
RESEARCH INTERN   SUPERVISOR: DR. BOQING GONG, DR. LIWEI WANG   *Jan 2019 to Apr 2019*
- Real time image-text grounding.
- One paper (ICCV 2019) resulted from this project.

SnapChat Research   *Venice, CA*
RESEARCH INTERN   SUPERVISOR: DR. YUNCHENG LI, DR. LINJIE YANG, DR. NING ZHANG   *May 2018 to Aug 2018*
- Weakly-supervised human part parsing.
- One paper (ICPR 2020a) and one patent (submitted) resulted from this project.

SAIC USA   *San Jose, CA*
RESEARCH INTERN   SUPERVISOR: DR. JERRY YU   *May 2017 to Aug 2017*
- Camera-based E2E self-driving.
- One paper (ICPR 2018) resulted from this project.
- Best Industry Related Paper Award (BIRPA) in ICPR 2018 (1/1258).

Selected Publications

CVPR 2021a	**Zhengyuan Yang**, Yijuan Lu, Jianfeng Wang, Xi Yin, Dinei Florencio, Lijuan Wang, Cha Zhang, Lei Zhang, Jiebo Luo, "TAP: Text-Aware Pre-training for Text-VQA and Text-Caption," IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Online, June 2021. **Oral presentation (4.0%)**.
CVPR 2021b	Liwei Wang, Jing Huang, Yin Li, Kun Xu, **Zhengyuan Yang**, Dong Yu, "Improving Weakly Supervised Visual Grounding by Contrastive Knowledge Distillation," IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Online, June 2021.
ECCV 2020	**Zhengyuan Yang**, Tianlang Chen, Liwei Wang, Jiebo Luo, "Improving One-stage Visual Grounding by Recursive Sub-query Construction," European Conference on Computer Vision (ECCV), Online, August 2020.
ACL 2020	Yongjing Yin, Fandong Meng, Jinsong Su, Chulun Zhou, **Zhengyuan Yang**, Jie Zhou, Jiebo Luo, "A Novel Graph-based Multi-modal Fusion Encoder for Neural Machine Translation," Annual Meeting of the Association for Computational Linguistics (ACL), Online, July 2020.

T-CSVT 2020	**Zhengyuan Yang**, Tushar Kumar, Tianlang Chen, Jingsong Su, Jiebo Luo, "Grounding-Tracking-Integration," IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT).
ACMMM 2020	Huan Lin, Fandong Meng, Jinsong Su, Yongjing Yin, **Zhengyuan Yang**, Yubin Ge, Jie Zhou, Jiebo Luo, "Dynamic Context-guided Capsule Network for Multimodal Machine Translation," ACM Multimedia Conference, Seattle, WA, October 2020
ICCV 2019	**Zhengyuan Yang**, Boqing Gong, Liwei Wang, Wenbing Huang, Dong Yu, Jiebo Luo, "A Fast and Accurate One-Stage Approach to Visual Grounding," IEEE International Conference on Computer Vision (ICCV), Seoul, South Korea, 2019. **Oral presentation (4.3%)**.
ICPR 2020a	**Zhengyuan Yang**, Yuncheng Li, Linjie Yang, Ning Zhang, Jiebo Luo, "Weakly Supervised Body Part Parsing with Pose based Part Priors," International Conference on Pattern Recognition (ICPR), Millan, Italy, January, 2020.
ICPR 2020b	**Zhengyuan Yang**, Amanda Kay, Yuncheng Li, Wendi Cross, Jiebo Luo, "Pose-based Body Language Recognition for Emotion and Psychiatric Symptom Interpretation," International Conference on Pattern Recognition (ICPR), Millan, Italy, January, 2020.
CVPR 2019	Mengshi Qi, Weijian Li, **Zhengyuan Yang**, Yunhong Wang, Jiebo Luo, "Attentive Relational Networks for Mapping Images to Scene Graphs," IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Long Beach, USA, 2019.
ICME 2019	**Zhengyuan Yang**, Yixuan Zhang, Jiebo Luo, "Human-Centered Emotion Recognition in Animated GIFs with Facial Landmarks," IEEE International Conference on Multimedia and Expo (ICME), Shanghai, China, 2019.
T-CSVT 2018	**Zhengyuan Yang**, Yuncheng Li, Jianchao Yang, Jiebo Luo, "Action Recognition with Spatio-Temporal Visual Attention on Skeleton Image Sequences," IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT).
ICPR 2018a	**Zhengyuan Yang**, Yixuan Zhang, Jerry Yu, Junjie Cai, Jiebo Luo, "End-to-end Multi-Modal Multi-Task Vehicle Control for Self-Driving Cars with Visual Perceptions," International Conference on Pattern Recognition (ICPR), Beijing, China, 2018. **Best Industry Related Paper Award (BIRPA) (1/1258)**.
ICPR 2018b	**Zhengyuan Yang**, Yuncheng Li, Jianchao Yang, Jiebo Luo, "Action Recognition with Visual Attention on Skeleton Images," International Conference on Pattern Recognition (ICPR), Beijing, China, 2018.

Services

Reviewer	IEEE Conference on Computer Vision and Pattern Recognition (CVPR): 2020- IEEE International Conference on Computer Vision (ICCV): 2021- Annual Meeting of the Association for Computational Linguistics (ACL): 2021- Neural Information Processing Systems (NeurIPS): 2020- International Conference on Machine Learning (ICML): 2021- Asian Conference on Computer Vision (ACCV): 2020- IEEE Winter Conference on Applications of Computer Vision (WACV): 2021- IEEE International Conference on Multimedia and Expo (ICME): 2018- IEEE International Conference on Image Processing (ICIP): 2018- IEEE Transactions on Image Processing (TIP) IEEE Transactions on Multimedia (TMM) IEEE Transactions on Cybernetics IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) IEEE Transactions on Biomedical Circuits and Systems (TBioCAS) Pattern Recognition IEEE Access

Selected Awards

Twitch Research Fellowship	2020
Best Industry Related Paper Award (BIRPA) in ICPR 2018, *(1/1258)*	2018
National Scholarship, *Top 3%*	2014
Huayu Scholarship, *Top 3%*	2015
Elite Class of Information Science Scholarship	2015