

Daqing LIU

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EDUCATION

University of Science and Technology of China

Sep 2016 - Jun 2021

Doctor supervised by Prof. Zheng-Jun Zha

Hefei

- My primary research interests are Computer Vision and Machine Reasoning. Specifically, my current research focuses on vision and language, e.g., image/video captioning, visual grounding, visual/video question answering, and vision-and-language navigation

Chang'An University

Sep 2012 - Jun 2016

Bachelor in Automation (Excellent Engineer)

Xi'an

- GPA: 3.51/4.0 | Rank: 2/29 | University Merit Student

EXPERIENCE

Nanyang Technological University

May 2018 - May 2019

MReaL Lab Research Assistant (with Asst. Prof. Hanwang Zhang)

Singapore

- Conducted cutting-edge research on machine reasoning in the vision and language field
- Image Captioning: proposed the first compositional reasoning mechanism, which improves the CIDEr by 6.2% and outperforms all academic SoTA results under all metrics
- Visual Grounding: proposed the first tree-based reasoning mechanism, which significantly improves the model explainability and the performance under all metrics
- Published 2 papers in T-PAMI (top journal of AI) and 1 paper in ICCV 2019

PUBLICATIONS [Google Scholar]

- **Daqing Liu**, Zheng-Jun Zha, Hanwang Zhang, Yongdong Zhang, Feng Wu. *Context-Aware Visual Policy Network for Sequence-Level Image Captioning*, ACM MM, 2018. (**Oral**, Acceptance Rate: 8.5%) [[pdf](#)] [[code](#)]
- **Daqing Liu**, Hanwang Zhang, Zheng-Jun Zha, Feng Wu. *Learning to Assemble Neural Module Tree Networks for Visual Grounding*, ICCV, 2019. (**Oral**, Acceptance Rate: 4.3%) [[pdf](#)] [[code](#)] [[talk](#)]
- Zheng-Jun Zha, **Daqing Liu (First Student Author)**, Hanwang Zhang, Yongdong Zhang, Feng Wu. *Context-Aware Visual Policy Network for Fine-Grained Image Captioning*, T-PAMI, 2019. (Impact Factor: **17.861**) [[pdf](#)] [[code](#)]
- Richang Hong, **Daqing Liu (Corresponding Author)**, Xiaoyu Mo, Xiangnan He, Hanwang Zhang. *Learning to Compose and Reason with Language Tree Structures for Visual Grounding*, T-PAMI, 2019. (Impact Factor: **17.861**) [[pdf](#)]
- **Daqing Liu**, Hanwang Zhang, Zheng-Jun Zha, Meng Wang, Qianru Sun. *Joint Visual Grounding with Language Scene Graphs*, Preprint, arXiv:1906.03561, 2019. [[pdf](#)]
- Ganchao Tan*, **Daqing Liu* (Equal Contribution)**, Meng Wang, Zheng-Jun Zha. *Learning to Discretely Compose Reasoning Module Networks for Video Captioning*, IJCAI, 2020. (**Oral**, Acceptance Rate: 12.6%) [[pdf](#)] [[code](#)]
- Yuanen Zhou, Meng Wang, **Daqing Liu**, Zhenzhen Hu, Hanwang Zhang. *More Grounded Image Captioning by Distilling Image-Text Matching Model*, CVPR, 2020. [[pdf](#)] [[code](#)]

SKILLS

- Programming: Python, C/C++, Matlab, LaTeX
- Framework: PyTorch, TensorFlow, Caffe

PROJECTS [GitHub]

- CAVP (<https://github.com/daqingliu/CAVP>): Image Captioning System
- NMTree (<https://github.com/daqingliu/NMTree>): Visual Grounding System
- RMN (<https://github.com/tgc1997/RMN>): Video Captioning System