Yanyuan Qiao

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BIO

Yanyuan Qiao is a Postdoctoral Research Fellow working with A.P. Qi Wu, at the Australian Institute for Machine Learning (AIML), The University of Adelaide, where she completed my Ph.D. in Computer Science, under the supervision of A.P. Qi Wu and Dr. Yuankai Qi. She works on Multi-modal problems, particularly in the area of General Vision and Language Methods in Real Applications, such as vision-and-language navigation, text-to-image synthesis, and visual question answering. She has published 8 peer-reviewed articles in top-tier journals/conferences such as TPAMI, TMM, CVPR, and ACM MM, etc.

Research Interest

Deep Learning, Vision-and-Language, Embodied AI.

Education

The University of Adelaide, Adelaide, Australia **2020 – 2023**

PhD in Computer Science

University of Chinese Academy of Sciences, Beijing, China **2016 – 2019**

MEng in Electronics and Communication Engineering

Southeast University, Nanjing, China **2012 – 2016**

BEng in Sensor Network Technology

Publications

Journals:

- **Yanyuan Qiao**, Yuankai Qi, Yicong Hong, Zheng Yu, Peng Wang, Qi Wu, HOP+: History-enhanced and Order-aware Pre-training for Vision-and-Language Navigation, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2023. (Core rank: A^*)
- **Yanyuan Qiao**, Chaorui Deng, Qi Wu, Referring Expression Comprehension: A Survey of Methods and Datasets, IEEE Transactions on Multimedia (TMM), 2020. (Core rank: A^*)
- Zhiwei Fang, Jing Liu, Yong Li, **Yanyuan Qiao**, Hanqing Lu, Improving Visual Question Answering Using Dropout and Enhanced Question Encoder, Pattern Recognition (PR), 2019. (Core rank: A^*)

Conferences:

- **Yanyuan Qiao**, Yuankai Qi, Yicong Hong, Zheng Yu, Peng Wang, Qi Wu, HOP: History-and-Order Aware Pre-training for Vision-and-Language Navigation, CVPR, 2022. (Core rank: A^*)
- **Yanyuan Qiao**, Qi Chen, Chaorui Deng, Ning Ding, Yuankai Qi, Mingkui Tan, Xincheng Ren, Qi Wu, R-GAN: Exploring Human-like Way for Reasonable Text-to-Image Synthesis via Generative Adversarial Networks, ACM MM, 2021. (Core rank: A^*)
- **Yanyuan Qiao**, Zheng Yu, Jing Liu, RANKVQA: Answer Re-ranking for Visual Question Answering, ICME, 2020. (Core rank: A) (**Oral**)
- **Yanyuan Qiao**, Zheng Yu, Jing Liu, VC-VQA: Visual calibration mechanism for Visual Question Answering, ICIP, 2020. (Core rank: B)
- Zhiwei Fang, Jing Liu, **Yanyuan Qiao**, Qu Tang, Yong Li, Hanqing Lu, Enhancing Visual Question Answering Using Dropout, ACM MM, 2018. (Core rank: A^*)

Research Experience

Vision-and-Language Navigation **May 2021 - present**

- Proposing a history-enhanced and order-aware pre-training and the complementing fine-tuning paradigm with an external memory network for VLN tasks.

Text-to-Image Synthesis **Sept 2020 - Apr 2021**

- Proposing a novel Generative Adversarial Network to produce photo-realistic and reasonable images from the corresponding intricate descriptions by imitating the drawing process of humans.

Visual Question Answering **Sept 2017 - Feb 2020**

- Developing a visual calibration mechanism for VQA systems with a visual feature reconstruction module that can guide predicted answers to be more relevant to the image content.
- Proposing a new VQA paradigm to achieve a better understanding of visual information and overcome the language-bias problem.
- Proposing a siamese dropout mechanism to enhance the robustness of the VQA model.

Honors and Awards

Honors & Scholarship:

- Ecoles d'été France Excellence Scholarship (¥15,000) 2018
- University of Chinese Academy of Sciences 2016-2017 Outstanding Student 2017
- University of Chinese Academy of Sciences Academic Scholarship 2016
- Southeast University 2014-2015 Course Scholarship 2015
- Southeast University Individual Scholarship for Excellence in Social Practice 2013
- Southeast University Individual Scholarship for Excellence in Volunteer Service 2013

Awards & Prizes:

- 4th place in the VQA Challenge at CVPR Workshop 2018 2018

Technical and Personal Skills

- Programming Languages: Python, C++, Matlab, LaTeX.
- Libraries: PyTorch, Numpy, Caffe.
- Platforms: Linux, Windows.
- Languages: English (Fluent), Mandarin (Native).

Professional Activities

- Conference Reviews: ACM MM 2020/2021, BMVC 2021, CVPR 2021/2022, NeuIPS 2023.
- Journal Reviews: IJCV, TIP, TMM, TOMM