Yuxuan WANG

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EDUCATION

Nanyang Technological University (NTU), School of Computer Science and Engineering,
Ph.D. Candidate   2022.8 - Present
 Supervised by Prof. *Hanwang Zhang* in Computer Vision.

National University of Singapore (NUS), Electrical and Computer Engineering,
Master of Science (*GPA: 4.47/5*)   2021.8 - 2022.6
 Supervised by Prof. *Mike Zheng Shou* in Computer Vision.

Beihang University, Electronic Information Engineering,
Bachelor of Engineering (*GPA: 87.5/100*)   2016.9 - 2020.6
 Honors: The Second-Class Prize on China Undergraduate Physics Tournament, Beijing Division; The First-class
Scholarship on Academic Competition of Beihang; The First-class Scholarship of Literature and Art Award.

PUBLICATIONS

View-Consistent 3D Editing with Gaussian Splatting
Yuxuan Wang, Xuanyu Yi, Zike Wu, Na Zhao, Long Chen, Hanwang Zhang
European Conference on Computer Vision (ECCV), 2024

- In the diffusion model, we proposed effective multi-view consistency modules that harmonize the inconsistent multi-view image guidance by integrating with 3D Gaussian Splatting (3DGS) characteristics,
- We incorporated our consistency modules into an iterative pattern that offers high-quality 3DGS editing.

Predicate Debiasing in Vision-Language Models Integration for Scene Graph Generation
Yuxuan Wang, Xiaoyuan Liu
Main Conference, Empirical Methods in Natural Language Processing (EMNLP), 2024

- We introduced a plug-and-play method that dynamically ensemble the zero-shot VLMs to address the under-representation issue in Scene Graph Generation (SGG) models.
- Towards the relation words bias underlying in the pre-training language set, we propose Lagrange-Multiplier Estimation to approximate the unattainable pre-training words' distribution.

Symbolic Replay: Scene Graph as Prompt for Continual Learning on VQA Task
Stan Weixian Lei, Difei Gao, Jay Zhangjie Wu, Yuxuan Wang, Wei Liu, Mengmi Zhang, Mike Zheng Shou
AAAI Conference on Artifical Intelligence (AAAI), 2023, **Oral**

- We introduced Scene Graph as Prompt (SGP) for symbolic replay, a real-data-free replay-based method for Continual Learning VQA.
- SGP overcomes the limitations of replay-based methods by leveraging the scene graph as an alternative to images for replay.

GEB+: A Benchmark for Generic Event Boundary Captioning, Grounding and Retrieval
Yuxuan Wang, Difei Gao, Licheng Yu, Stan Weixian Lei, Matt Feiszli, Mike Zheng Shou
European Conference on Computer Vision (ECCV), 2022

- We introduced three tasks of video boundary understanding on our new dataset called Kinetics-GEB+ (Generic Event Boundary Plus), consisting of over 170k boundaries associated with captions in 12K videos.
- We designed a new Temporal-based Pairwise Difference (TPD) Modeling method for visual difference representation and achieved significant performance improvements.

AssistSR: Task-oriented Video Segment Retrieval for Personal AI Assistant
Stan Weixian Lei, Difei Gao, Yuxuan Wang, Dongxing Mao, Zihan Liang, Lingmin Ran, Mike Zheng Shou
Findings, Empirical Methods in Natural Language Processing (EMNLP), 2022

- We introduce a new dataset and a new task called Affordance-centric Question-driven Video Segment Retrieval (AQVSR), aiming at retrieving affordance-centric instructional video segments given users' questions.
- To address the task, we developed a straightforward model called Dual Multimodal Encoders (DME).

OTHER RESEARCHES

Test System Building of IMS-MLD Decoding Algorithm and Reed-Muller Code
Bachelor thesis supervised by Prof. *Qin Huang*, Beihang University   2020.2 - 2020.6

Analog Fountain Code (AFC)
Supervised by Prof. *Qin Huang*, Beihang University   2019.7 - 2019.9

Blind Identification and Demodulation of Modulated Signals
Supervised by Prof. *Qin Huang*, Beihang University   2018.7 - 2018.10

SKILLS

- **Language**: Mandarin (Native), English (GRE: 331/340, TOEFL: 110/120)
- **Coding**: Python, Java, C, MATLAB, SQL
- **Music**: Piano, Guitar, Clarinet, Cavalry trumpet, Singing, Chorus Conducting

INTERNSHIP EXPERIENCE

Big Data Platform for Health and Medical | Inspur Co., Ltd
Java Software Engineer   2020.6 - 2020.9

Zhiyue | Weitong Education Co., Ltd
C# Web Software Engineer   2020.10 - 2021.1

COMAC Financial System | Inspur Co., Ltd
Back-End Software Engineer   2021.1 - 2021.5

EXTRACURRICULAR EXPERIENCE

Student Chorus | Beihang University
Tenor Singer   2016.9 - 2020.6

- Won the gold medal at the national college music performance.
- Won the gold medal at the International Chorus Festival in Calella, Spain.
- Five performances in special concerts and musical theaters.
- Jointly performed with the Chorus of University of Johannesburg.