Zhongqi **Yue**

Interests: LLM Post-Training, Multimodal LLM

Computer Science and Engineering, Chalmers University of Technology

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Professional Experience

Wallenberg-NTU Presidential Postdoctoral Fellowship — *Singapore & Sweden*

Presidential Postdoctoral Fellow — *01.2024-02.2026 (Expected)*

- 01.2024 - 01.2025: Nanyang Technological University, advised by Prof. Hanwang Zhang;
- 02.2025 - 02.2026: Chalmers University of Technology, advised by Assoc Prof. Fredrik Johansson.

Sea AI Lab (SAIL) — *Singapore*

Research Intern — *10.2023 - 12.2023*

- Supervisor: Asst Prof. Pan Zhou

Alibaba-NTU Singapore Joint Research Institute — *Singapore*

Alibaba PhD student — *08.2019 - 08.2023*

- Advisor: Xian-Sheng Hua (IEEE Fellow)

Nanyang Technological University — *Singapore*

Ph.D in Computer Science — *08.2019 - 12.2023*

- Advisor: Prof. Hanwang Zhang
- Thesis: Causal View of Generalization

Selected Publications

Zhongqi Yue*, Weishi Wang*, Yundaichuan Zhan, Juncheng Li, Daniel Dahlmeier, Fredrik D. Johansson. Expanding the Action Space of LLMs to Reason Beyond Language. 2025.

[CVPR 2025] Kaihang Pan*, Wang Lin*, **Zhongqi Yue***, Tenglong Ao, Liyu Jia, Wei Zhao, Juncheng Li, Siliang Tang, Hanwang Zhang. Generative Multimodal Pretraining with Discrete Diffusion Timestep Tokens. (**Best Student Paper Honorable Mention** 7/13008).

[Technical Report] Bohan Wang, **Zhongqi Yue**, Fengda Zhang, Shuo Chen, Li'an Bi, Junzhe Zhang, Xue Song, Kennard Yanting Chan, Jiachun Pan, Weijia Wu, Mingze Zhou, Wang Lin, Kaihang Pan, Saining Zhang, Liyu Jia, Wentao Hu, Wei Zhao, Hanwang Zhang. Selftok: Discrete visual tokens of autoregression, by diffusion, and for reasoning. 2025.

[NeurIPS 2025] Bohan Wang, Mingze Zhou, **Zhongqi Yue**, Wang Lin, Kaihang Pan, Liyu Jia, Wentao Hu, Wei Zhao, Hanwang Zhang. Selftok-Zero: Reinforcement Learning for Visual Generation via Discrete and Autoregressive Visual Tokens.

[ICCV 2025] Qifan Yu*, Zhebei Shen*, **Zhongqi Yue***, Yang Wu, Wenqiao Zhang, Yunfei Li, Juncheng Li, Siliang Tang, Yueting Zhuang. Mastering Collaborative Multi-modal Data Selection: A Focus on Informativeness, Uniqueness, and Representativeness. (**Highlight** 262/11239).

[CVPR 2025] Qifan Yu*, Wei Chow*, **Zhongqi Yue***, Kaihang Pan, Yang Wu, Xiaoyang Wan, Juncheng Li, Siliang Tang, Hanwang Zhang, Yueting Zhuang. AnyEdit: Mastering unified high-quality image editing for any idea. (**Oral** Presentation 96/13008).

[NeurIPS 2021] Tan Wang, **Zhongqi Yue**, Jianqiang Huang, Qianru Sun, Hanwang Zhang. Self-Supervised Learning Disentangled Group Representation as Feature. (**Spotlight** Presentation 260/9122; 2022 PREMIA Best Student Paper)

[ICCV 2021] **Zhongqi Yue**, Qianru Sun, Xian-Sheng Hua, Hanwang Zhang. Transporting Causal Mechanisms for Unsupervised Domain Adaptation. (**Oral** Presentation 210/6236)

Other Publications

[NeurIPS 2025] Minghe Gao*, **Zhongqi Yue***, Wenjie Yan, Yihao Hu, Wei Ji, Siliang Tang, Jun Xiao, Tat-Seng Chua, Yueting Zhuang, Juncheng Li. Counterfactual Evolution of Multimodal Datasets via Visual Programming.

[ICCV 2025] Minghe Gao, Xuqi Liu, **Zhongqi Yue**, Yang Wu, Shuang Chen, Juncheng Li, Siliang Tang, Fei Wu, Tat-Seng Chua, Yueting Zhuang. Benchmarking multimodal cot reward model stepwise by visual program.

[CVPR 2024] Zhongqi Yue, Pan Zhou, Richang Hong, Hanwang Zhang, Qianru Sun. Few-shot Learner Parameterization by Diffusion Time-steps.

[ICLR 2024] Zhongqi Yue, Jiankun Wang, Qianru Sun, Lei Ji, Eric I-Chao Chang, Hanwang Zhang. Exploring Diffusion Time-steps for Unsupervised Representation Learning.

[NeurIPS 2023] Zhongqi Yue, Qianru Sun, Xian-Sheng Hua, Hanwang Zhang. Make the U in UDA Matter: Invariant Consistency Learning for Unsupervised Domain Adaptation. (WILDS 2.0 Leaderboard 1st Place).

[ICCV 2023] Jiali Ma, **Zhongqi Yue**, Tomoyuki Kagaya, Tomoki Suzuki, Karlekar Jayashree, Sugiri Pranata, Hanwang Zhang. Invariant Feature Regularization for Fair Face Recognition.

[ICCV 2023] Yanghao Wang, **Zhongqi Yue**, Xian-Sheng Hua, Hanwang Zhang.
Random Boxes Are Open-world Object Detectors.

[CVPR 2023] Hui Lv, **Zhongqi Yue**, Qianru Sun, Bin Luo, Zhen Cui, Hanwang Zhang. Unbiased Multiple Instance Learning for Weakly Supervised Video Anomaly Detection.

[CVPR 2021] Zhongqi Yue*, Tan Wang*, Qianru Sun, Xian-Sheng Hua, Hanwang Zhang. Counterfactual Zero-Shot and Open-Set Visual Recognition.

[NeurIPS 2020] Zhongqi Yue, Hanwang Zhang, Qianru Sun, Xian-Sheng Hua. Interventional Few-Shot Learning.

Herman Bergström, **Zhongqi Yue**, Fredrik D. Johansson. When are radiology reports useful for training medical image classifiers? 2025.

Yuxuan Liu, **Zhongqi Yue**, Kun Kuang, Fengda Zhang, Hanwang Zhang. Open-Set Recognition Beyond Vision-Language Pre-training. 2025.

Xue Song, **Zhongqi Yue**, Jiequan Cui, Hanwang Zhang, Jingjing Chen, Yu-Gang Jiang. Object Fusion via Diffusion Time-step for Customized Image Editing with Single Example. 2025.

Wang Lin, Liyu Jia, Wentao Hu, Kaihang Pan, **Zhongqi Yue**, Wei Zhao, Jingyuan Chen, Fei Wu, Hanwang Zhang. Reasoning physical video generation with diffusion timestep tokens via reinforcement learning. 2025.

Academic Services

Invited Talks

2025. *Generative Multimodal Pretraining with Discrete Diffusion Timestep Tokens*. Oral presentation at CVPR.

2025. *AnyEdit: Mastering unified high-quality image editing for any idea.*. Oral presentation at CVPR.

2025. *Large Language Models: How Machines Learned to Talk and Think*. Invited talk at Huawei Singapore Research Center.

2025. *The Rise of Multimodal LLM: How Machines Learned to See and Draw*. Invited talk at Huawei Singapore Research Center.

2024. *Tokenizer is Key to Next-Gen AR Modelling*. Invited talk at Huawei Singapore Research Center.

2024. *Visual Autoregressive Modelling*. Invited talk by NUS NExT Research Centre.

2024. *Visual Autoregressive Modelling*. Invited talk by Skywork AI.

2021. *Interventional Learning*. Invited talk by the Lab for Media Search (LMS) in NUS and NExT Research Centre.

2020. *Interventional Few-Shot Learning*. Invited talk by Jiantao Jiao's Lab in UC Berkeley.

Teaching Experience

Sem 1, AY2020-21	**Introduction to Computational Thinking and Programming**, Teaching Assistant
Sem 1, AY2021-22	**Microprocessor System Design and Development**, Teaching Assistant
Sem 2, AY2022-23	**Artificial Intelligence**, Teaching Assistant

Peer Review

Conference & journal reviewer for NeurIPS, CVPR, ICCV, ICML, UAI, ECCV, IJCAI, ACM MM, TPAMI, TMLR, IJCV, T-RO.

Projects

PyTorch Implementations of Published Papers
Accumulated 600+ Github Stars in 3 years *09.2020 - present*

Real-Time Gesture Recognition on Mobile Processors
Advised by Prof. Huang Guangbin *08.2016 - 05.2017*
- Achieved 20 FPS on NVIDIA TK1 chip using webcam with support of multiple hands and gestures.

Action Recognition with Extreme Learning Machine
Advised by Prof. Teoh Eam Khwang *01.2016 - 05.2016*

Real-time Target Detection for Unmanned Aerial Vehicle
Advised by Prof. Xie Lihua *08.2014 - 06.2015*

Awards & Scholarships

2019-2023 **Alibaba Talent Program Candidate**, Alibaba Cloud
2015-2016 **NTU President Research Scholar**, Nanyang Technological University
2011-2017 **MOE SM2 Scholoarship** (200 candidates annually in China), MOE Singapore

2017 **Shape The Future Global Innovation Winner** (2/300), Tata Communications
2017 **AWS Hack Day 2017 2nd Prize**, Amazon Web Services
2015-2017 **Dean's List and Academic Excellence Award**, Nanyang Technological University

2018 **Certified SCRUM Master**, SCRUM Alliance
2018 **AWS Certified Solution Architect & Developer**, Amazon Web Services

Outreach & Professional Development

2017 **Guest performer**, NTU Guitar Ensemble Annual Concert
2016 **Organizer**, Oversea Visit to NTU and NTNU in Taiwan
2015 **President**, NTU Cultural Activities Club, Harmonica Band
2013 **Team Leader**, Volunteering for Singapore School for the Deaf

Skills

Recently Used: Python, PyTorch, Tensorflow, LaTeX;

Previously Used: C++, Java, Javascript, Frontend & backend development.