Zekun Qi

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• Current research directions include 3D computer vision, multimodal large language models, and embodied AI.



Education

2022 - · · · ·

M.S. Xi'an Jiaotong University & IIIS, Tsinghua University Software Engineering Supervised by Prof. Andrew C. Yao and Prof. Kaisheng Ma, while also collaborating closely with Prof. Li Yi and Prof. He Wang. Our group's homepage is ArchipLab.

2018 - 2022

B.S. Xi'an Jiaotong University Automation
Ranked in the top 10% academic performance. Achieved a first-class university scholarship and honored as an outstanding graduate.

Employment History

2024.3 - · · · · ·

Galbot Inc. *Research Intern*Embodied LLM structure design for open vocabulary robotic manipulation.

2023.7 - 2024.3

MEGVII Inc. Research Intern
Multi-modal Large Language Model structure

Multi-modal Large Language Model structure design and data filtering.

2021.6 - 2022.2

ByteDance Inc. *Engineer Intern*Build a performance monitoring platform using Selenium. Use SIFT and KNN algorithms to achieve online front-end comparison. Construct the Lark service bot.

Research Publications

Conference Proceedings

- Z. Qi, R. Dong, G. Fan, Z. Ge, et al., Contrast with reconstruct: Contrastive 3d representation learning guided by generative pretraining, in ICML, 2023. URL: https://openreview.net/forum?id=80IfYewOh1.
- Z. Qi, M. Yu, R. Dong, and K. Ma, Vpp: Efficient universal 3d generation via voxel-point progressive representation, in NeurIPS, 2023. URL: https://openreview.net/forum?id=etd0ebzGOG.
- Z. Qi, R. Dong, S. Zhang, H. Geng, et al., Shapellm: Universal 3d object understanding for embodied interaction, in ECCV, 2024. Our.: https://arxiv.org/abs/2402.17766.
- R. Dong, Z. Qi, L. Zhang, J. Zhang, et al., Autoencoders as cross-modal teachers: Can pretrained 2d image transformers help 3d representation learning? In ICLR, 2023. URL: https://openreview.net/forum?id=8Oun8ZUVe8N.
- R. Dong, C. Han, Y. Peng, **Z. Qi**, et al., **Dreamllm: Synergistic multimodal comprehension and creation**, in **ICLR Spotlight**, 2024. **O** URL: https://openreview.net/forum?id=y01KGvd9Bw.

Preprint Articles

- G. Fan, Z. Qi, W. Shi, and K. Ma, Point-gcc: Universal self-supervised 3d scene pre-training via geometry-color contrast, arXiv preprint, 2023. OURL: https://arxiv.org/abs/2305.19623.
- Y. Peng, Y. Cui, H. Tang, Z. Qi, et al., Dreambench++: A human-aligned benchmark for personalized image generation, arXiv preprint, 2024. URL: https://arxiv.org/abs/2406.16855.

Skills

Coding **Python**, C, C++, Matlab, Lagrange, ...

Library **PyTorch**, Numpy, Pandas, OpenCV, sklearn...

Misc. ChatGPT, Linux, DataBase (SQL, MongoDB), Data Mining (Beautiful Soup, Selenium), Embedded system (Keil-ARM, C51), Android Development, PhotoShop, Blender, ...

Miscellaneous Experience

Awards and Achievements

- National Special Prize for China Undergraduate Physics Tournament
 Won the national runner-up of the China Undergraduate Physics Tournament (CUPT) as the team leader. Commendation Website. The paper is published in the core journal Physics and Engineering.
 - Provincial First Prize for China Undergraduate Mathematical Contest in Modeling
 Based on graph theory and reinforcement learning to model and analyze desert gold-digging games, the paper is published in the core journal *China Collective Economy*.
- National Excellence Award for Undergraduate Innovation & Entrepreneurship Projects

 Regional intrusion and abnormal behavior detection, utilizing frame differencing for motion region detection and segmentation, mean shift algorithm for object tracking, and YOLO for object recognition.
 - Annual Spiritual Civilization Award in Xi'an Jiaotong University
 Won the Innovation and Entrepreneurship Award, which is granted to only ten individuals each year.

 Commendation Website.