Di Qiu

+86-18811392393 | qiudi@stu.pku.edu.cn | qiudi233.github.io

Education

Peking University Sept. 2020 - Jul. 2024
Bachelor of Science in Computer Science and Technology Beijing, China

- **GPA:** 3.61/4.00 (86/100)
- **Award:** Best Presentation Award for Academic and Innovation Season(¥3000 RMB)
- **Core Courses:** Introduction to Computer Systems, Introduction to Artificial Intelligence, Algorithm Design and Analysis, Operating Systems, Computer Networks, Algorithm Design and Analysis, Visual Computing and Interaction

Publication

- Jianing Li, **Di Qiu**, Xi Nan, Jiaming Liu, Ming Lu, Yuan Du. Weakly Supervised Monocular Depth Estimation for Spike Camera with Adaptive Self Distillation. Submitted to IEEE Transactions on Multimedia.
- Kun Wu, Ning Liu, Zhen Zhao, **Di Qiu**, Jinming Li, Zhengping Che, et al. SWBT: Similarity Weighted Behavior Transformer with the Imperfect Demonstration for Robotic Manipulation. Submitted to ICRA 2024.

Research Experience

Offline Imitation Learning with Imperfect Demonstrations Apr. 2023 - Sept. 2023
Advisor: Dr. Zhengping Che Midea Group, AI Innovation Center

- Considered integrating imperfect demonstrations into the offline imitation learning setting for robot manipulation tasks.
- Proposed a novel framework that calculates accurate quality scores using a pre-trained transformer and then does weighted behavior cloning with the high-quality imperfect demonstrations, leveraging them to enhance performance.
- Conducted experiments on five tasks on the ManiSkill2 benchmark, and the average success rate improved by 12% compared to the state-of-the-art methods. This work resulted in a top-tier conference submission.

Carbon Nanotube Image Analysis Mar. 2023 - May. 2023
Advisor: Prof. Min Xu Carnegie Mellon University

- Attempted to calculate the center-to-center intertubular distance for carbon nanotube images with noise and artifacts.
- Designed a thresholding-based algorithm to separate carbon nanotubes from the background and identify the boundaries.
- Conducted experiments on collected biological images, demonstrating that the proposed method achieves an error rate within 5% compared to the ground truth, significantly accelerating data processing and enhancing analytical consistency.

Monocular Depth Estimation for Spike Camera Oct. 2022 - May. 2023
Advisor: Prof. Shanghang Zhang Peking University

- Studies depth estimation with neuromorphic spike camera. Self-supervised depth estimation for spike camera proves challenging due to its high frequency. This research was aimed at enabling the model to learn without depth labels.
- Proposed a weakly-supervised depth estimation method for the spike camera, first synchronizing spike data with RGB data and then using a self-distillation module to transfer knowledge from the RGB encoder to the spike encoder.
- Conducted experiments on the generated Spike-KITTI dataset, and achieved results that outperformed existing neuromorphic methods across nearly all evaluative metrics. This work resulted in a top-tier journal submission.

Professional Experience

ByteDance Ltd. Sept. 2023 - Present
Backend Developer Intern, Data-Arch Team Beijing, China

- Configured 10 TikTok chatbots with Flask, enabling them to receive user messages, invoke LLMs and send reply cards.
- Optimized the company's demotion platform with Django by implementing a manual review feature and integrating it with ByteCycle testing platform, resulting in a reduction of over 50% of the platform's online issues.

DiDi Global Inc. Mar. 2023 - Apr. 2023
Backend Developer Intern, AIoT Platform Team Beijing, China

- Independently designed and developed a HPC(High Performance Computing) job accounting tool to store job-related information in a database using Golang and SQL, facilitating performance analysis and optimization.
- Created CLIs(Command Line Interface) for speech data analysis and model training with Gin and Cobra, improving the company's machine learning platform and boosting model development efficiency.

Teaching Assistant

- Introduction to Computation(Python) Sept. 2023 - Present
- Foundations of Programming and Algorithms Help Session Apr. 2023 - Present
- Data Structure and Algorithm Recitation Apr. 2023

Skills and Interests

- **Programming Languages:** C&C++, Python, Golang, SQL
- **Languages:** Madarin(native), English(proficient)
- **Interests:** Kendo(Vice President of the Kendo Club), writing technical blogs(over 80,000 visits in CSDN)