Leizhi Li

Shanghai, China — lileizhi@sjtu.edu.cn — (+86)13995621901

EDUCATION

Shanghai Jiaotong University, Shanghai, China — Sep. 2021 – Present
Bachelor of Computer Science, **ACM Honor Class** — Overall GPA: 3.60 — Major GPA 3.57

- Computer System Comprehensive Design — A+
- Computer Vision — A+
- Optimization — A
- Mathematical Analysis — A

RESEARCH PROJECT

Editable Human Motion Generation Via Guided Diffusion

2024.1 - Now

We identify the reliance of the motion generation models on natural language instructions suffering from lacking precise and accurate control. To accomplish controllable generation, we introduce an intermediate depicting the adverbial properties of human motions as an interface for controlling. To strike the balance between semantic expressibility and editability, we design a two-stage generation pipeline. We also design a training mechanism in the diffuse process to enable the diffusion model to better recover from partial phrases.

CLIP Driven Zero-shot Semantic Segmentation Assisted by Graph Representation

2023.9 - 2023.12

We explore combining the grouping technique with vision-language foundation models like CLIP. By quantizing image tokens encoded by CLIP, we gain a more compact and structured representation of vision information. We hope this intrinsic property of discrete representation can enable better performance in zero-shot settings. We exploit these quantized representations further using graph techniques in data processing fields to extract deeper information that we can learn from CLIP and future foundation models for downstream tasks.

COURSE PROJECTS

LOSe *Project Link:* `https://github.com/TristoneLee/lOSe`

- LOSe is a Linux-like operating system designed and implemented on the RISC-V platform. LOSe supports Buddy memory allocation module, use/kernel space isolation, process scheduling, user mode I/O, and applications, and interrupt handling. Lose can be run on QEMU, providing a command line interface.

GiFS *Project Link:* `https://github.com/TristoneLee/GiFS`

- GiFS is an independent implementation of the Google File System(GFS) which has been widely deployed in industry and inspired future studies in distributed file system. GiFS supports high-level concurrent file IO with weak consistency guarantee under diverse circumstances and fast and robust recovery confronting disastrous server failure.

Mx* Compiler *Project Link:* `https://github.com/TristoneLee/Compiler`

- This is an assignment of SJTU ACM class, a compiler for a language called Mx* into assembly code in RISC-V 32IMA. This compiler contains a full-stack procedure of compiling, including semantic parsing, building abstract syntax tree, IR representation, register allocation, and assembly code generation.

RESEARCH INTEREST

My focus areas include representation learning, probabilistic generative models, and vision-language foundation models. Additionally, I am interested in the pertinent stochastic explanations and mathematical principles behind elegant machine learning.

SKILLS

Progeaming Language Python, C++, Rust, Go, Java
Development Pytorch, OpenCV, Git
Language Toefl 107