

Zecheng(Zephyr) Yin

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Hard-working bee

Hi. My name is Zecheng(Zephyr) Yin. I'm a fanatic about cutting-edge researches about Embodied AI (Object-Oriented Navigation, VLA), Natural Language Processing(NLP), VLM/LLM, Computer Vision and Graph Data mining. I am currently a researcher and engineer in Shenzhen Future Network of Intelligence Institute (FNii) led by fellow of Canadian Academy of Engineering Shuguang Cui, and working closely with Prof. Zhen Li in The Chinese University of Hong Kong(Shenzhen).

In my M.S., I was advised by Prof. Yanchun Zhang and Hong Yang in the area of graph neural network medicine textual data mining as well as protein structural predicting at Guangzhou University. During this period, I had an internship at Kuaishou for NLP search mining and an internship at IDEA for financial graph malware detection. Prior to M.S., I was shortly advised by Prof. Jin Li in the area of federated learning and attack at Guangzhou University when in B.S..

Publications

Navigation with VLM framework: Go to Any Language, IROS'25 (Under Review) Zecheng Yin , Shuguang Cui, Zhen Li	Sept 2024
TCMCoRep: Traditional Chinese Medicine Data Mining with Contrastive Graph Representation Learning, KSEM'23 (ccf-c, acceptance rate: 23.1%) Zecheng Yin , Jinyuan Luo, Yanchun Zhang	May 2023
HGCL: Heterogeneous Graph Contrastive Learning for Traditional Chinese Medicine Prescription Generation, HIS'22 (acceptance rate: 27.78%) Zecheng Yin , Yanchun Zhang	Aug 2022
A hybrid-scales graph contrastive learning framework for discovering regularities in traditional Chinese medicine formula, BIBM'21 (ccf-b, acceptance rate: 19.6%) Yingpei Wu, Zecheng Yin , Yanchun Zhang	Feb 2021
ResMGCN: Residual Message Graph Convolution Network for Fast Biomedical Interactions Discovering, arxiv2023 Zecheng Yin	Aug 2022

Education

Guangzhou University, M.S. in Computer Science • GPA: 3.4/4.0	Sept 2020 – May 2023
Guangzhou University, BS in Computer Science • GPA: 3.36/4.0	Sept 2016 – May 2020
University of Washington, AI&robotics program • AI&Robotics program, certificate of excellence, mentored by Melody Su	Aug 2018 – Sept 2018

Industry

Research engineer, CUHK(Shenzhen)-FNii, Shenzhen • Vision Language Navigation and (Robot Arm) Vision Language Action implementations in simulation.	July 2023 – present
NLP algorithm intern, Kuaishou, Beijing • Text searching alignment by designed transformers and contrastive learning. • Construct text dataset and calculate stuffs by long SQL.	May 2021 – June 2022
Algorithm engineer Intern, IDEA, Shenzhen • 2 transferrable graph embedding (graph sage and random walk) experiments, see github repo1 and repo2	June 2022 – Oct 2022

- Implementation of PPRGO.

Proficiency

VLN & VLA in simulation during FNii

- Object-oriented exploration/navigation in simulated scenes performing **VLA** and **VLN**. Proficiency in **Habitat**, and **Omnigibson(Behavior-1k)** about controlling various robots with arm manipulation (IK-controller) and locomotion.

Graph neural network during M.S.

- To model different entities, such as text, molecules, and protein atoms, into graphs (both homogeneous and heterogeneous) and to use various types of graph neural networks to predict their properties and interactions.

Natural language processing during M.S. & intern

- Transformer, text entity extraction, text searching alignment, relation construction, representation of tokens, similarity-based recommendation

Reinforcement learning/fine-tuning/usage on large model during paper

- LoRA PPO reinforcement learning fine-tuning on minicpm-v-2.5.

Contrastive learning during M.S.

- advanced contrastive learning, contrastive loss innovation during master.

Software developing during FNii

- Web development, backend and front end, one project still at work.
- Implementation of federated learning platform via FATE core service, architecture, file operating system, storage logic, etc..

Open Source & Projects

Replicate and deploying opensource VLA/VLN projects 2024

- VLN replication such as GoToAnything in both habitat and omnigibson, which includes intrinsic parameter, point cloud, coordinates calibration, http communication build-up.
- VLA transfer such as Openvla (CoRL'24), Rekep (ICRA'25) in omnigibson, which includes end-effector controlling, locomotion controlling, object locating, project refactoring and http communication build-up.
- Opensourced easy-to-use keyboard control with example in Habitat3.

LLM-powered multi-agent system FNii project

- To utilize LLM as the system core to properly assign decomposed different sub-tasks to agents in order to accomplish long-term task while perceiving all information from the environment and respond accordingly and simultaneously. (Similar research work: RoboBrain CVPR'25)

Simulation Scene build-up 2024

- I have experience in modifications on simulated scenes, such as adding objects, robots, cameras, and moving objects.

Transformer-based search engine Kuaishou project

- To embed the text token by empirically designed transformer and contrastive learning based embedding, to perform token similarity based text data searching.

Pytorch geometric(PyG) contributor & Chinese poetry dataset check PyG check dataset

- Implementation of DMGI, to PyG (a popular GNN learning library).
- The dataset got hundreds star volunteer .
- I regularly post technical reports and articles on CSDN, which have accumulated over 1 million views.

Skills

Languages: Python, bash, C++, SQL

Proficiency at: Linux, Git, Pytorch, Flask, Latex, C++