SHIWEN HAN

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EDUCATION

ShanghaiTech University, Shanghai, China 09/2018-07/2022

BSc Computer Science and Technology, School of Information Science and Technology

Core Modules: Computer Vision(A), Numerical Optimization(A), Symbolic Artificial Intelligence(A), Artificial Intelligence(A-)

The Ohio State University, Ohio, United States 08/2022-Now

MS Computer Science and Engineering, College of Engineering

Core Modules: Introduction to Data Mining, Foundations of Speech and Language Processing

SKILLS

Language: Python, C/C++, SQL, JavaScript, HTML/CSS, MATLAB, Bash

Technologies: PyTorch, TensorFlow, Git, ReactJS, NodeJS, Django/Django REST, Bootstrap, MongoDB, SolidWorks

PROFESSIONAL EXPERIENCE

Software Research and Development Intern 06/2021-09/2021

Shanghai RhythMo Digital Technology Co., LTD

- Participated in constructing a 3D Human Reconstruction **Dataset** on extreme pose and dancing movement.
- Built an automatic alignment **pipeline** for IMUs sequences and human movement videos with **Bash** and **PyTorch**.
- Gave a **tutorial** for a research group in this company about Variational Autoencoders(**VAEs**).
- Research on **Motion Capture** with single-view image and fewer IMUs though utilize the hidden space of VAE.

Student Research Assistant 03/2021-05/2021

Visual & Data Intelligence Center, Shanghai

- Build an end-to-end **reconstruction** model straight from image and only supervised by 2D human pose.
- Combining an **optimization** and **regression** methods in one pipeline and get **40%** speed-up on testing.

Robotics Competition 09/2018-06/2019

RoboMaster National College Students Robotics, Second Prize of Southern Part Final

- Designed prototype of sentry by **SolidWorks** and established robot model.
- As a **team leader**, coordinated with raw material suppliers and among mechanical, electronic control and vision departments.

RESEARCH EXPERIENCE

Prompt Ensembling via Mixture-of-Experts 09/2021-Now

Course Project, Natural language processing, The Ohio State University

- Use Mixture-of-Experts(**MoE**) layer to ensemble **soft prompt** trained on different source dataset.
- Transfer those source prompts to a new prompt for target dataset by **few-shot** learning on **T5X** base model.

VAE for Unsupervised Clustering on High Resolution Image Datasets 05/2021-06/2021

Individual Research, Guided by Professor Victor Adamchik, Remote with University of Southern California

- Used **VAE** with GMM and two stage training process for unsupervised clustering
- Added ResNet50 for feature extraction of high-resolution inputs and reach **94%** on the AFHQ datasets

Synthetic Lethality (SL) Prediction by Knowledge Graph (KG) 09/2020-12/2020

Group Research, Guided by Associate Professor Jie Zheng, Smart Medical Information Research Center, Shanghai

- Introduced **Knowledge Graph** (KG) based method to SL (Synthetic Lethality) pairs prediction
- Proposed an innovative multi-task framework RKG, which combined **recommend system** and KG learning
- Designed a SL-preference-based graph **attention** mechanism to aggregate more side information