Zixin Liu

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Education

Shandong University, Qingdao **Sept. 2019 - June 2022**
Master of Computer Technology *GPA: 83.1/100*
Award: Outstanding Graduate Student

Xi'an University of Posts and Telecommunications, Xi'an **Sept. 2014 - June 2018**
Bachelor of Computer Science and Technology *GPA: 83.9/100*
Award: National Encouragement Scholarship (Rank:4/197, GPA:86.1/100)

Professional Experience

Pengcheng Laboratory, Institute for Computer Vision **July 2022 – Present**
Machine Learning Engineer

Research

Multi-modal Emotion Recognition via Hierarchical Knowledge Distillation **Dec. 2021 – June 2022**
Advisor: Prof. Liqiang Nie, Shandong University | Qingdao, China

- This work developes a hierarchical **knowledge distillation** model for **multi-modal emotion recognition**. It boosts the performance of non-dominated modalities, and thus the overall performance of the model, by modeling the inter-modal relation between different modalities.
- Independently build the model framework, cooperate to improve the innovative ideas of the thesis (based on graduation thesis), and write the relevant parts of the thesis.
- Submitted and Under Review by IEEE TMM.

Fashion Graph-enhanced Personalized Complementary Clothing Recommendation **Nov. 2020 – May. 2021**
Advisor: Prof. Xuemeng Song, Shandong University | Qingdao, China

- This work constructs a unified fashion atlas that organically integrates independent first-order interaction modeling and collaborative higher-order interaction modeling, bridges the gap of existing work, and facilitates the effectiveness of personalized clothing compatibility modeling.
- Independently reproduce the paper benchmark model, be responsible for the transformation of ideas to code to achieve model optimization and training, and cooperate with the improvement of the experimental part.
- Supported by CCF-Baidu Open Fund and Published by Journal of Cyber Security(CCF-B).

Project

Large-scale Model Distillation Deployment Platform **Jan. 2023 – Present**

- Based on the provided information, it seems that the development paradigm of AI has shifted towards utilizing pre-trained models (PTMs).
- Independently implemented the decoupling of large models, small models, and distillation methods, and responsible for enhancing platform architecture design.
- Contributed a universal knowledge distillation framework that supports models of various architectures and enables modular knowledge distillation..

Visual Spatio-temporal Big Data Mining System for Urban Scenes **July 2022 – Present**

- Creating a real-time, comprehensive, and systematic city information data infrastructure capable of data mapping and spatiotemporal calculations, which extends to various application systems for integrating technologies based on industry demands.
- Responsible for implementing visual algorithms in the system, refining system architecture design, and frontend design.
- Improved the performance of the foreground detection algorithm based on Python by optimizing it with CUDA. The algorithm execution efficiency was increased from XX to XX.

Power Substation Wiring Diagram Topological Detection **Aug. 2019 – June 2020**

- The project aims to realize the topological relationship detection technology of wiring diagram in power scene, which is mainly based on object detection and 8 neighborhood contour tracking algorithm.
- Independently proposed a topological relationship detection method for wiring diagrams suitable for power scenarios, and completed the experiment and thesis writing.
- This project is supported by State Grid Science and Technology Fund, results have been translated into an EI core paper and a patent.

Skills

Languages: Python, C++, C, CUDA, LaTeX
Deep Learning Tools: PyTorch, TensorFlow, PaddlePaddle, MindSpore