Zixin Liu

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Education

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

Advisor: Prof. Xuemeng Song, Co-Advisor: Prof. Liqiang Nie

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 **July 2022 – Present**
Machine Learning Engineer

Publications

Multi-modal Emotion Recognition via Hierarchical Knowledge Distillation
Teng sun, Yinwei Wei, Juntong Ni, ***Zixin Liu****, Xuemeng Song, Liqiang Nie. Under Review by IEEE TMM.*

Fashion Graph-enhanced Personalized Complementary Clothing Recommendation
Jinwan Shi, Xuemeng Song, ***Zixin Liu****, Liqiang Nie. Journal of Cyber Security, 2021.* [pdf]

Research

Multi-modal Emotion Recognition via Hierarchical Knowledge Distillation **Dec. 2021 – June 2022**

- Developed a hierarchical **knowledge distillation** model(HKD-MER), which enables the transfer of knowledge from the dominant modality to the others, to narrow the gap between different modalities.
- Enhanced the design of HKD-MER and developed it using PyTorch, including building, training, and fine-tuning.
- Contributed to the writing of the introduction, related work, and methodology sections of the paper.

Fashion Graph-enhanced Personalized Complementary Clothing Recommendation **Nov. 2020 – May. 2021**

- Developed a fashion graph-enhanced personalized complementary clothing recommendation model(FG-PCCR) that is based on **knowledge graph** and **GNNs**, aiming to integrate high-order relational information and representation learning.
- Replicated all benchmark methods and implemented the GNNs module in FG-PCCR using PyTorch. Additionally, visualized the fashion graph using Neo4J.

Project

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

- A **plug-and-play** model deployment platform based on **pre-trained models**, facilitating a wide range of functions including model subscription, fine-tuning training, model distillation, offline inference, and online deployment.
- Responsible for decoupling the teacher model, student model, and distillation methods, and contributing to the enhancement of platform architecture design.
- Contributed to the development of a **knowledge distillation** decoupling framework that is applicable to various hardware platforms and diverse model architectures.
- **Submitted a patent application and under review**.

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

- The Wiring Diagram Topology Detection System, capable of extracting the connectivity of elements from manually drawn CAD blueprints, enabling automatic conversion from CAD blueprints to CIM/G file formats.
- Responsible for designing and implementing algorithmic solutions.
- Developed a topological relationship detection algorithm based on **object detection** and **contour tracing** algorithms, successfully addressing the project's challenges.
- **Published a research paper in the Journal of Beijing University of Aeronautics and Astronautics and granted a patent(CN202010707515.0)**.

Skills

Languages: Python, C++, C, CUDA, Verilog, LaTeX
Deep Learning Tools: PyTorch, TensorFlow, Caffe, Keras, Theano, PaddlePaddle, MindSpore