ZHIHAO LI

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Education

School of Computer Science and Technology, Xidian University | **2021 - 2025**
Major in Computer Science and Technology | *3.9/4.0 GPA*
GPA Ranking for the First Five Semesters | *1/87 ≈ 1%*
CET-4: **571** *CET-6:* **523**

Research Projects

2D Virtual Try-On based on Deep Learning | **January 2023 - August 2023**

- **Project Overview**: Virtual Try-on refers to trying on new clothing based on images of the person and new clothing.
- **Individual Contribution**: Team Leader, responsible for **model architecture design and optimization**, conduct iterative pruning for the pre-trained model and quantization-aware-training(QAT). Furthermore, design the Img2Col algorithm for accelerating model inference.
- **Project Repository**: 🐙 https://github.com/LZHMS/Virtual-Tryon
- **Project Website**: 🌐 https://lzhms.github.io/projects/VirtualTryon

Robust Multi-modal Prompt Learning for Visual Language Models | **December 2023 - February 2024**

- **Project Overview**: Research on how to enable pre-trained multi-modal models to robustly transfer to downstream noisy datasets through prompt learning, facilitating adaptation for downstream tasks.
- **Research Findings**: We explored the influence of the **attention decomposition mechanism**, which involves matching the multi-level similarities of features extracted from various layers of the text encoder and the visual encoder. And utilizing the Meta Net to learn the optimal similarity distribution, effectively mitigates the impact of noisy labels on model robustness.
- **Project Repository**: 🐙 https://github.com/LZHMS/RMaPLe

Interactive Learning Mechanism for Visual Language Models | **February 2024 - Now**

- **Project Overview**: Research on how to enable pre-trained multi-modal models to robustly transfer to downstream noisy datasets through prompt learning, facilitating adaptation for downstream tasks.
- **Research Findings**: We propose an interactive learning mechanism for visual language models by constructing two sets of prompts that guide each other. A Gaussian Mixture Model (GMM) is used to identify reliable labels and noisy labels. Reliable labels undergo smooth augmentation, while noisy labels undergo ensemble augmentation. Finally, both sets of prompts are fine-tuned simultaneously using soft labels.
- **Project Repository**: 🐙 https://github.com/LZHMS/MLPT

Competition Achievements

- August 2023: **National First Prize** of China College Student Service Outsourcing Innovation and Entrepreneurship Competition (Top 0.3% in China).
- November 2023: **National Second Prize** of China Undergraduate Mathematical Contest in Modeling (CUMCM) (Top 1.53% in China).
- May 2024: **International First Prize** (Meritorious Winner) in American Collegiate Mathematical Modeling Contest (MCM/ICM) (Top 7% in the world).
- June 2023: **Grand Prize** of Shaanxi Province Higher Mathematics Competition for College Students (Top 3% in Shaanxi Province).
- January 2023: **Provincial First Prize** in National Mathematics Competition for University Students.

Honours and Awards

- December 2022: Youth Model Honorary Title of Xidian University (Top 1% in Xidian University).
- September 2022 & 2023: Excellent Student Title of Xidian University.
- September 2023: Huameng Scholarship.

Technical Skills

Languages: Python, MATLAB, C++, Shell
Tools: Git, Github, Linux
Habits: Blogging, Logging
Framework: Pytorch, Dassl