Zicong Zhang

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https://zhangzicong518.github.io

Education

Shanghai Jiao Tong University, B.S. in Computer Science Sept 2023 – Present

- John Hopcroft Class, Zhiyuan College (Honor Program)
- GPA: 88.3/100
- **Coursework:**
  Math: Mathematical Analysis, Linear Algebra, Mathematical Logic, Probability, Optimization Method, Combinatorics, Information Theory
  CS: Computer System, Programming Language Design and Implementation, Algorithm, Program Design and Data Structure

Research Experience

Continual Learning with Model Fusion, SJTU MIFA Lab, intern July 2024 – Jan 2025

- Co-led development of a novel continual learning framework for VLMs by introducing model fusion
- Proposed aggregating the results of multiple decoupled task-specific models for prediction in zero-shot scenarios.
- Conducted extensive experiments on multiple benchmarks, demonstrate that outperforming the original pre-trained VLM and other state-of-the-art continual learning methods.

Code Retrieval and Training Visualization, SJTU CoPhi Lab, intern Dec 2024 – Mar 2025

- Annotated high-quality samples for code search tasks, ensuring data accuracy and relevance for model training.
- Explored and designed metrics to quantitatively characterize changes in embedding spaces
- Utilized AlignedUMAP to visualize and analyze the evolution of high-dimensional embedding spaces during model training, providing insights into model behavior and convergence.

Awards

- Zhiyuan Honor Awards (Top 10% in SJTU) 2023,2024
- The Third Prize of Academic Scholarship (Top 30% in major) 2024

Publications

Enhanced Continual Learning of Vision-Language Models with Model Fusion

Haoyuan Gao*, Zicong Zhang*, Yuqi Wei, Linglan Zhao, Guilin Li, Yexin Li, Linghe Kong, Weiran Huang

[Under Review]

Projects

Continual Learning Framework for VLMs

Results in papers Enhanced Continual Learning of Vision-Language Models with Model Fusion

- Designed a continual learning framework for VLMs by introducing model fusion
- Deployed a pipeline and conducted extensive experiments on multiple benchmarks, achieving up to 2% improvement over other state-of-the-art continual learning methods.

Technologies

Language: Mandarin (native), English (CET-6 600, TOEFL under preparation)

Programming: C/C++, Python, Rust

Technologies: Git, Pytorch, Numpy, Matplotlib, Cmake, Latex, Linux

张子聪

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教育背景

上海交通大学, 计算机科学学士 2023 年 9 月–至今

- 约翰 · 霍普克罗夫特班, 致远学院（荣誉计划）
- GPA: 88.3/100
- **相关课程**:
  数学: 数学分析, 线性代数, 数理逻辑, 概率论, 最优化方法, 组合数学, 信息论
  计算机科学: 计算机系统, 程序语言设计与实现, 算法, 程序设计与数据结构，机器学习

研究经历

基于模型融合的持续学习, 上海交通大学 MIFA 实验室, 实习生 2024 年 7 月–2025 年 1 月

- 共同领导开发了一种新颖的持续学习框架，通过引入模型融合技术应用于视觉语言模型（VLM）。
- 提出基于语义信息的聚合多个解耦的特定任务模型输出的方案，在零样本场景中进行预测。
- 在多个基准数据集上进行了广泛的实验，证明其优于预训练的视觉语言模型和其他最先进的持续学习方法。

大模型代码检索与训练可视化, 上海交通大学 CoPhi 实验室, 实习生 2024 年 12 月–2025 年 3 月

- 为代码搜索任务标注高质量样本，确保模型训练数据的准确性和相关性。
- 探索并设计指标，刻画训练过程中表征嵌入空间的变化。
- 使用 AlignedUMAP 可视化和分析模型训练过程中高维嵌入空间的演变，提供对模型行为和收敛的深入观察。

获奖情况

- 致远荣誉奖学金（上海交通大学前 10%）2023 年, 2024 年
- 三等学业奖学金（专业前 30%）2024 年

论文发表

Enhanced Continual Learning of Vision-Language Models with Model Fusion

Haoyuan Gao*, Zicong Zhang*, Yuqi Wei, Linglan Zhao, Guilin Li, Yexin Li, Linghe Kong, Weiran Huang

[Under Review]

项目经历

基于视觉语言模型的持续学习框架

论文成果：Enhanced Continual Learning of Vision-Language Models with Model Fusion

- 设计了一种基于模型融合的视觉语言模型持续学习框架。
- 部署了实验流程，并在多个基准数据集上进行了广泛实验，相比其他最先进的持续学习方法，性能提升高达 2

技能

语言: 中文（母语）, 英语（CET-6 600 分）

编程语言: C/C++, Python, Rust

相关技能: Git, Pytorch, Numpy, Matplotlib, Cmake, Latex, Linux