Ruiyang Zhang

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INTRODUCTION

Hello! I am a first-year Ph.D. student at University of Macau, working under the supervision of Prof. Zhedong Zheng. My current research focuses on **Multi-modal Large Language Models (MLLM)**, specifically exploring their inherent uncertainty. Previously, I have conducted research on Unsupervised 3D Object Detection and Self-Paced Learning.

PUBLICATION

1. **[ECCV 2024] Approaching Outside: Scaling Unsupervised 3D Object Detection from 2D Scene** [30+ Github Stars]
   Ruiyang Zhang, Hu Zhang, Hang Yu, Zhedong Zheng
   [Paper] | [Code]
   - Enhance detection of far and small objects via LiDAR and 2D data fusion.

PREPRINT

1. **[Preprint] Uncertainty-o: One Model-agnostic Framework for Unveiling Epistemic Uncertainty in Large Multimodal Models** [Under review]
   Ruiyang Zhang, Hu Zhang, Hao Fei, Zhedong Zheng
   - Applicable to both large comprehension model and large generation model.

2. **[Preprint] VL-Uncertainty: Detecting Hallucination in Large Vision-Language Model via Uncertainty Estimation** [Under review]
   Ruiyang Zhang, Hu Zhang, Zhedong Zheng
   [Paper] | [Code] | [Website]
   - Preliminary attempt for understanding uncertainty in LVLM.

3. **[Preprint] Harnessing Uncertainty-aware Bounding Boxes for Unsupervised 3D Object Detection** [Under review]
   Ruiyang Zhang, Hu Zhang, Hang Yu, Zhedong Zheng
   [Paper] | [Code]
   - Aim to mitigate negative impact of noisy pseudo boxes.

EDUCATION

Fudan University   Shanghai, China
B.S. in Computer Science and Technology   Sept. 2017 - Jun. 2021

University of Macau   Macau SAR, China
Ph.D. in Computer Science and Technology   Aug. 2024 - Jun. 2028

SELECTED AWARD

First Prize, National Olympiad in Informatics in Jiangsu Province (NOIP), 2014 & 2015
First Prize, Chinese Mathematical Olympiad in Jiangsu Province (CMO), 2016
Third Class Scholarship for Outstanding Students, Fudan University, 2018 & 2019
Second Prize, China Undergraduate Mathematical Contest in Modeling (CUMCM), 2019

SERVICE

Conference Reviewer: ICLR 2025, ICASSP 2025
Journal Reviewer: TOMM

WORK EXPERIENCE

Meituan   Shanghai, China
Backend Development Engineer   Jul. 2021 - Jun. 2023

SKILL

Programming: Python (Pytorch), C/C++, Java, MATLAB
Language: English (IELTS 7.0/9.0), Chinese (Native)

OPEN SOURCE

1. [**Awesome List**] **Awesome-MLLM-Uncertainty** [**30+ Github Stars**] [Code]
   - Curated list of papers on the uncertainty in multi-modal large language model (MLLM).

2. [**Awesome List**] **Awesome-MLLM-Reasoning** [Code]
   - Curated list about reasoning abilitiy of MLLM, including OpenAI o1, OpenAI o3-mini, and Slow-Thinking.