Wenhao Yao

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Education

Fudan University Sep 2023 – Present
B.Sc., Computer Science and Technology, GPA 3.41

South China University of Technology Sep 2019 – Jun 2023
B.Eng., Computer Science and Technology, GPA 3.95

Research Experience

Robust NAVSIM: Are the End-to-end Autonomous Driving Models and Benchmarks Sufficient? Oct 2024 – Present

- Introduce Robust NAVSIM, the first benchmark specifically designed to access the robustness of end-to-end planning in autonomous driving.
- Present augmentation methods like ego-pose perturbations and weather modifications to enhance robustness.
- The augmented training pipeline not only enhances robustness but also improves performance in routine driving scenarios, setting a new state-of-the-art on the NAVTEST split of NAVSIM.

Multi-Modal Prototypes for Vast-Vocabulary Object Detection May 2024 – Aug 2024

- Notice that the main challenge of vast vocabulary object detection is on enormous visual concept classification.
- Extract features from example images and detailed descriptions to build classifiers and distinguish visual concepts, and ensemble the logits of different classifiers to enhance performance.
- Surpass V3Det dataset SOTA results in both Vast Vocabulary and Open Vocabulary Object Detection settings.
- Reach perfect result in *V3Det Challenge 2024* (1st place in the Open Vocabulary Object Detection Track, and 2st place in the Vast Vocabulary Object Detection Track).

Unleashing General Mask Transformers for Scene Text Spotting Sep 2023 – Aug 2024

- Build a simple scene text spotting pipeline based on the Mask Transformers, while preserving the pre-trained visual knowledge of the detection module.
- Extract text foreground features from segmented results through random sampling, and utilize a non-autoregressive Transformer to recognize text.
- Strengthen the synergy effect between text detection and recognition by the object query-text alignment.
- Achieve competitive and even better performance on ICDAR-2015, Total-Text and CTW1500 compared to previous state-of-the-art methods.

Teaching Experience

A Introduction to Artificial Intelligence, Fudan University Mar 2024 – Jun 2024
Teaching Assistant

- Design and instruct lab projects on Convolutional Neural Networks.
- Prepare course notes on Unsupervised Learning, Representation Learning, and Games.

Awards

Second Prize, National College Student Computer System Ability Competition – Compiler System Design Aug 2021

Skills

Deep Learning Frameworks and Platforms: Detectron2, Pytorch, Pytorch-Lightening

Coding Skills: C++, Python

English: CET-6 611

Outreach

Monitor, 2019 Computer Science and Technology Class 1, South China University of Technology Sep 2019 – Jun 2023
President, Guangdong Experimental High School Astronomy Association Sep 2017 – Jun 2018