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

Unleashing General Mask Transformers for Scene Text Spotting	Jul 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.

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

- Notice that the main challenge of vast vocabulary object detection focuses 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)

LaTeX Formular Recognition	Nov 2021 – May 2022

- Transform the input formular image into LaTeX-style command.
- Utilize ResNet-50 to extract the image feature, and adopt auto-regressive Transformer to decode the words.
- Improve the synonyms pre-processing and ease data insufficiency through transfer learning.
- Reach 90.6% accuracy in Math Formular Dataset.

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
Honorable Mention, Mathematical Contest in Modeling (MCM)	Apr 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