

Education

Shanghai Jiao Tong University
Shanghai, China

800 Dongchuan RD. Minhang District

ACM Honors Class

Zhiyuan college

Zhiyuan Collage is a for training outstanding students in the basic sciences while ACM Honors Class is an elite CS program for top 5% talented students.

Publication

Wenxin Zheng, Rui Zhu, **Maosheng Zhu**, A Novel Framework for Natural Language Understanding Based Image Enhancement, in submission to ICCTA2020

Research Experiences

Using deep learning methods to deal with unlabeled graph matching instances.

SJTU-ThinkLab

July 2019 - present

Advisor: Prof. Junchi Yan

Role: student researcher

Detailed work:

- Reproduced results of graph matching using permutation loss and cross-graph affinity methods.
- Used convolutional pose machine to generate potential labels.
- Applied cross-GNN to aggregate features from nodes across graph.
- Used Sinkhorn layer to normalize the affinity matrix into a doubly stochastic matrix.

An image enhancement project based on mask R-CNN and image matting and CoreNLP toolkit

SJTU

Sept. 2019 - Nov. 2019

Advisor: Prof. Cewu Lu

Role: student researcher

- Used Mask-RCNN to segment desired image patch.
- Input the classification result to the natural language analysis model to extract related modifier.
- Refined the result mask by deep image matting.
- Adopted L0 gradient smoothing to create trimap for image matting.
- Applied various image enhancement networks and low level image enhancement models for tasks such as image denoising, haze reduction, illumination enhancement and contrast preserving, and detail magnification.
- Implemented a voting model to select the best performing models with combined criterias based on different tasks with SSIM, PSNR and so on.
- Wrote a paper (refer to the publication section)

Awards

Zhiyuan Honorary scholarship, Zhiyuan College, SJTU (Top 10% awarded)

2018

Teaching experiences

Teaching assistant for Data Structure Course

Spring 2019

- Prepared the course project railway ticket management system with other teaching assistants.
- Prepared a programming test.
- Reviewed course project code with other teaching assistants.