

CHANGJIE LU

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Wenzhou-Kean University, DaXue Road 88, Wenzhou, Zhejiang, China, 325000



EDUCATION

Wenzhou-Kean University

Junior Student

Department of Mathematics Science

August 2019 - Present

Overall GPA: 3.771/4.0

Major GPA: 3.873/4.0

SKILLS

Programming skills: Python(proficiency), JAVA, Matlab, R, Maple, Git, Linux, Markdown, Latex

Language: Chinese, English

Framework: Pytorch, Tensorflow, Keras, OpenCV

RESEARCH EXPERIENCE

Medical Image Segmentation

University of Pennsylvania

Feb 2022 -

Advised by Manish Gupta

- Unsupervised knee image segmentation.
- Neural approximation for inverse problem of BM equation in brain MRI image.
- Domain Adaptation for MRI image quality enhancement from Tesla5 to Tesla7.

Real-Time Bidding

Functional Optimization Reinforcement Learning for Real-Time Bidding

Sept 2021 - Dec 2021

Underreview

- Designed functional optimization agents (FOAs) using Lagrange multiplier
- Combine the deep reinforcement learning and functional optimization to learn the agent's causality.
- Demonstrate the effectiveness of the functional optimization using the multi-agent bidding scenario.

Image Deraining

Segmentation-Aware Progressive Network for Perceptual Contrastive Image Deraining 2022 WACV Workshop

July 2021-Nov 2021

- Our group proposes a semi-supervised segmentation-aware progressive network for single image deraining.
- Present a novel progressive dilated unit (PDU) embedded with a new channel residual attention (CRA). This design allows efficient usage of multi-scale rain streak information.
- Design a new perceptual contrastive loss (PCL). By integrating perceptual and contrastive losses, the derained image is close to the GT in terms of pixel-wise difference and fine details.
- Comprehensive experiments demonstrate that our model surpasses previous state-of-the-arts qualitatively and quantitatively.

Image Deblurring

Deblur-YOLO: Fast Real-Time Object Detection with Blind Motion Deblurring

Dec 2020-Feb 2021

2021 IJCNN(Oral)

- Our group presents an efficient object detection model that is robust to motion blur.
- Introduce Dilated Feature Pyramid Network (DFPN), which utilizes dilated convolution blocks to obtain a larger receptive field with less memory consumption.
- Design Smooth Peak Signal-to-Noise Ratio (SPSNR), which utilizes smooth l1 loss and effectively measures restored images' smoothness.

- Qualitatively and quantitatively demonstrate that our model achieves competitive performance against several state-of-the-art image deblurring models on COCO 2014, Set5, and Set14.

WORKING EXPERIENCE

Wenzhou-Kean University AI-LAB

Computer Vision Github Website

Feb 2022 -
Co-founder

Findability Science

Real Time Optimal Bid Shading for First Price Auction

Sept 2021- Dec 2021
Algorithm Consultant

- Explain more than five advanced algorithm for their team.
- Propose a Deep Q Network(DQN) for first price auction.
- Use Deep learning model DeepFM for CTR prediction.

Newford Research Institute of Advanced Technology

Data analysis of Zhejiang Province Industry

Oct 2020 - Dec 2020
Data Analyst

- Data visualization of Industry in Zhejiang Province.
- Develop a web crawlers script for collecting the data.

AWARD

3rd Price of National Mathematical Contest in Modeling

Reviewer of 36th AAAI

2020-2021 Dean List Scholarship

2020-2021 Research Scholarship

Invited Speaker in Fudan University

ACADEMIC INTEREST

Machine Learning, Computer Vision, Reinforcement learning