CHANGJIE LU

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EDUCATION

Wenzhou-Kean University *August 2019 - Present*
Junior Student Overall GPA: 3.771/4.0
Department of Mathematics Science 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 Feb 2022 -
University of Pennsylvania *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 Sept 2021 - Dec 2021
Functional Optimization Reinforcement Learning for Real-Time Bidding *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 July 2021-Nov 2021
Segmentation-Aware Progressive Network for Perceptual Contrastive Image Deraining 2022 WACV Workshop

- 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 Dec 2020-Feb 2021
Deblur-YOLO: Fast Real-Time Object Detectionwith Blind Motion Deblurring *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.

INTERNSHIP

Findability Science Sept 2021- Dec 2021
Real Time Optimal Bid Shading for First Price Auction *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 pridiction.

Newford Research Institute of Advanced Technology Oct 2020 - Dec 2020
Data analysis of Zhejiang Province Industry *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