Xinpeng Wang

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EDUCATION

The Chinese University of Hong Kong, Shenzhen　　Sep. 2023 - Present

Computer and Information Engineering, Master of Philosophy　　Shenzhen, China

➢ GPA: 3.9/4.0
➢ TOEFL: 103 (Reading 29, Listening 27, Speaking 24, Writing 23)

Shaanxi Normal University　　Sep. 2019 - Jun. 2023

Computer Science, Bachelor　　Shaanxi, China

➢ GPA: 3.72/5 (Rank: 5/98)

RESEARCH

FedSTSC: Federated Domain Generalization with Style Transfer and Semantic Consistency　　Oct. 2023 - Present

Advisor: Prof. Xiaoying Tang, The Chinese University of Hong Kong, Shenzhen

➢ Adapted MixStyle to federated setting for cross-client feature transfer.
➢ Utilized Jensen-Shannon divergence and mutual information maximization to enhance semantic consistency.
➢ Achieved SOTA federated domain generalization performance.

Automated Diagnostic Scheme Based on Domain Translation for Federated Modality Missing　　Jan. 2024 - Present

Advisor: Prof. Carl Yang, Emory University; Prof. Lifang He, Lehigh University

➢ Simulated more realistic scenarios of modality missing under federated setting.
➢ Combined CycleGAN and Pix2Pix for better utilization of both paired and unpaired patients.
➢ Achieved higher classification accuracy and F1 score compared to other baselines.

Adapt DeepAugment to Low-Resolution Images by Employing AugMix　　Dec. 2022 - Apr. 2023

Advisor: Prof. Xiaoying Tang, The Chinese University of Hong Kong, Shenzhen

➢ Investigated the ability of generating effective perturbation of AugMix and DeepAugment on various datasets.
➢ Enhanced DeepAugment's capability to generate effective perturbation on small-scale images by embedding AugMix.

Automatic Detection of Retinopathy of Prematurity　　Feb. 2022 - Aug. 2022

Advisor: Prof. Lifang He, Lehigh University

➢ Applied image segmentation network to segment blood on the retina images.
➢ Applied contrastive learning and various data augmentation methods to reduce the negative impact from imbalance datasets.

PROJECT

FL-Bench　　Nov. 2023 - Present

https://github.com/KarhouTam/FL-bench | Contributor

➢ Implemented several SOTA federated domain generalization algorithms and heterogeneous data partition schemes.
➢ Has obtained over 460 stars on GitHub.

AWARD

China National Scholarship (The Highest Scholarship in China, Top 0.7%)　　Sep. 2020

Mathematics Competition of Chinese Undergraduate Students 1st prize (Shaanxi Area, Top 3%)　　Dec. 2020

Mathematics Competition of Chinese Undergraduate Students 1st prize (Shaanxi Area, Top 3%)　　Dec. 2021

Outstanding Graduate (Top 4%)　　Jun. 2023

Contemporary Undergraduate Mathematical Contest in Modeling 2nd prize (Shaanxi Area)   Sep. 2021

INTERN _____

Intel Asia-Pacific Research & Development Ltd, Shanghai | Software Engineer   Jul. 2022 - Oct 2022

➢ Investigated the existing interference server and analyzed the advantages and disadvantages of each system.

➢ Learned to use the NVIDIA Triton Influence Server, and master the logic between various functional components.