Mr. Li Pan

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Educational Background

Master's Degree in Multimedia Information Technology
Department of Electrical Engineering, City University of Hong Kong
GPA: 3.85/4.3; With Distinction award; Ranked 1/59.

09/2020 - 10/2021

Bachelor's Degree in Computer Science and Technology
School of Information Science and Engineering, Xiamen University

09/2016 – 07/2020

Working Experience

Department of Pathology, The University of Hong Kong   11/2023 - present

- ✓ Served as Research Assistant I.
- ✓ **My duties**:
- ✓ AI for Clinical
- ✓ Multi-modal Medical Diagnosis
- ✓ Radiology
- ✓ CT

Centre for Perceptual and Interactive Intelligence, CUHK   08/2021 – 11/2023
AIoT, CUHK
- ✓ Served as a research assistant at CPII.
- ✓ Supervised by Prof. Guoliang Xing
- ✓ **My duties**:
- ✓ AI for Health care
- ✓ Federated learning
- ✓ Internet of Things

The University of Hong Kong   03/2021 – 07/2021
Imperial College London
- ✓ Served as part-time research assistant
- ✓ Co-supervised by Dr. Giin Yu Amy Tan (HKU) and Dr. Po Heng Lee (ICL)
- ✓ **My duties**:
- ✓ Gene differential expression analysis
- ✓ Bacterial promoter prediction
- ✓ Bioinformatics analysis with quantum mechanics

Publications:

[MICCAI'23 (early accept)] **Li Pan**, Yupei Zhang, Qiushi Yang, Li Tan, Zhen Chen (2023). Combat Long-tails in Medical Classification with Relation-aware Consistency and Virtual Features Compensation. International Conference on Medical Image Computing and Computer Assisted Interventions (MICCAI 2023), Vancouver, Canada, early acceptance ratio: 14%.

[MobiSys'23 **Best paper award**] Xie, Z., Ouyang, X., **Pan, L**., Lu, W., Xing, G., & Liu, X. (2023, June). Mozart: A Mobile ToF System for Sensing in the Dark through Phase Manipulation. In Proceedings of the 21st Annual International Conference

[MobiSys'23] Ouyang, X., Xie, Z., Fu, H., Cheng, S., **Pan, L.,** Ling, N., ... & Huang, J. (2023, June). Harmony: Heterogeneous Multi-Modal Federated Learning through Disentangled Model Training. In *Proceedings of the 21st Annual International Conference on Mobile Systems, Applications and Services* (pp. 530-543).

[MobiCom'22] Xie, Z., Ouyang, X., **Pan, L.**, Lu, W., Liu, X., & Xing, G. (2022, October). HiToF: a ToF camera system for capturing high-resolution textures. In Proceedings of the 28th Annual International Conference on Mobile Computing And Networking (pp. 764-765).

[Medical Image Analysis (Major revision)] **Pan, L.,** Liu, J., Shi, M., Wong, C. W., & Chan, K. H. K. (2021). Identifying autism spectrum disorder based on individual-aware down-sampling and multi-modal learning.

[IEEE JBHI (Under review)] Zhang, Y., **Pan, L.,** Yang, Q., Li, T., Chen, Z. (2021). Unified Medical Multi-modal Diagnostic Framework with Multi-level Reconstruction Pre-training and Heterogeneity-combat Downstream Tuning

Project Experience

Machine Learning Technologies for Advancing Digital Biomarkers for Alzheimer's Disease
03/2020 – present

Advisor: Prof. Guoliang Xing (The Chinese University of Hong Kong)
- ✓ Designed the multi-sensor device to collect multimodal data from subjects
- ✓ Deployed the AD Box across Hong Kong in over 60 subjects' living room
- ✓ Assisted in the development of the federated learning framework
- ✓ Optimized on-device training and inference

Baby Monitoring
11/2021 – 01/2023

Advisor: Prof. Guoliang Xing (The Chinese University of Hong Kong)
- ✓ Deployed deep learning models onto embedded devices for monitoring babies' sleep.
- ✓ Accelerated deep learning models to achieve real-time object detection on NXP i.MX.
- ✓ Led the development of the product.

Quantum-like modeling of gene expression
03/2021 – 12/2022

Advisor: Dr. Giin Yu Amy Tan (The University of Hong Kong)
- ✓ Implemented quantum mechanisms to simulate the gene expression states of bacteria.
- ✓ Realized the proposed quantum-like models onto gate-based quantum computers, like IBMQ.

Honors and Awards

Best Paper Award, The 21st ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2023.

Award classification of Distinction, Department of Electrical Engineering, City University of Hong Kong