

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. 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

[Centre for Perceptual and Interactive Intelligence](#), CUHK 08/2021 - Present
[AIoT](#), CUHK

- ✓ Served as a research assistant at CPII.
- ✓ **My duties:**
- ✓ Supervised by Prof. Guoliang Xing
- ✓ AI for Health care
- ✓ Federated learning
- ✓ Internet of Things

The University of Hong Kong
Imperial College London 03/2021 - 07/2021

- ✓ 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

Xiamen Headquarters of UCAR (a **listed company**; the **leading integrated service platform** of China's **travel and automotive** sectors) 07/2019-12/2019

- ✓ Served the Algorithm Department and acted as AI Lab algorithm engineer
- ✓ Joined **Car Damage Detect Project**
- ✓ **My duties:**
- ✓ Mainly dealt with the user credit rating of the car loan services and the forecasting of repayment daily flow, the function realization of car damage detector based on Mask R-CNN as well as the order allocation of chauffeur-driven car-on-demand services, plus server intelligent operations and maintenance
- ✓ Final got AP₅₀ above 56.9 in the car damage detection project

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.

[Medical Image Analysis (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