

# 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 AP<sub>50</sub> 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