FATING HONG

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INTRODUCTION

I am a final-year Ph.D. student in Computer Science at the Hong Kong University of Science and Technology (HKUST). My research focuses on 3D digital avatars, with an emphasis on holistic avatar reconstruction, dynamic simulation, and novel-view synthesis. I have a particular interest in tackling challenging components, specifically the high-fidelity reconstruction and physics-based simulation of human hair. My work aims to generate highly realistic and controllable digital humans for impactful applications in virtual reality, filmmaking, and the gaming industry.

RESEARCH INTERESTS

- Video Generation
- Digital Avatar Generation & Simulation
- Hair Reconstruction & Simulation

EDUCATION

Hong Kong University of Science and Technology *Aug. 2021 - Present*

- Supervisor: Prof. Dan Xu
- CGA (Cumulative Grade Average): 3.45/4.0

Sun Yat-sen University *Aug. 2018 - Jul. 2021*

- M.Sc. in Computer Science and Technology
- Supervisor: Prof. Wei-Shi Zheng
- GPA: 3.55/4.0

South China University of Technology *Aug. 2014 - Jul. 2018*

- B.Sc. in Computer Science and Technology
- Supervisor: Prof. Sheng Bi
- GPA: 3.79/4.0

EXPERIENCE

Reality Labs (RL) Research, Meta, Zurich *Jun. 2025 - Dec. 2025*

- Research Intern, 4D Avatar & Hair Modeling
- Mentor: Dr. Aljaz Bozic

Hunyuan Lab, Tencent, Shenzhen *Oct. 2024 - Mar. 2025*

- Research Intern, Human Video Generation
- Mentor: Qinglin Lu

Media Intelligence Lab, Adobe, San Jose *May 2024 - Aug. 2024*

- Research Intern, Human Video Generation
- Mentor: Dr. Zhan Xu, Dr. Yang Zhou, Dr. Zhixin Shu, and Dr. Duygu Ceylan

PUBLICATIONS (UNDER REVIEW)

- Runzhen Liu, Qinjie Lin, Yunfei Liu, Lijian Lin, Ye Zhu, Yu Li, Chuhua Xian, **Fa-Ting Hong**✉, "Identity-Preserving Video Dubbing Using Motion Warping", ***Under review* 2025**.
- **Fa-Ting Hong**, Yunfei Liu, Yu Li, Changyin Zhou, Fei Yu, Dan Xu, "DreamHead: Learning Spatial-Temporal Correspondence via Hierarchical Diffusion for Audio-driven Talking Head Synthesis", ***Under review* 2025**.
- **Fa-Ting Hong**, and Dan Xu, "Learning Online Scale Transformation for Talking Head Video Generation", ***Under review* 2025**.

PUBLISHED PUBLICATIONS

- **Fa-Ting Hong**, Zunnan Xu, Zixiang Zhou, Jun Zhou, Xiu Li, Qin Lin, Qinglin Lu, and Dan Xu, "Audio-visual Controlled Video Diffusion with Masked Selective State Spaces Modelling for Natural Talking Head Generation", ***ICCV 2025 Accepted***.
- **Fa-Ting Hong**, Li Shen, and Dan Xu, "DaGAN++: Depth-Aware Generative Adversarial Network for Talking Head Video Generation", ***TPAMI (Regular Paper) 2024 Accepted***.
- **Fa-Ting Hong**, Zhan Xu, Haiyang Liu, Qinjie Lin, Luchuan Song, Zhixin Shu, Yang Zhou, Duygu Ceylan, and Dan Xu, "Free-viewpoint Human Animation with Pose-correlated Reference Selection", ***CVPR* 2025** (***Spotlight***).
- **Fa-Ting Hong**, and Dan Xu, "Implicit Identity Representation Conditioned Memory Compensation Network for Talking Head video Generation", ***ICCV* 2023**.
- **Fa-Ting Hong**, Longhao Zhang, Li Shen, and Dan Xu, "Depth-Aware Generative Adversarial Network for Talking Head Video Generation", ***CVPR* 2022**.
- **Fa-Ting Hong**, Jia-Chang Feng, Dan Xu, Ying Shan, and Wei-Shi Zheng, "Cross-modal Consensus Network for Weakly Supervised Temporal Action Localization", ***ACM MM* 2021**.
- **Fa-Ting Hong**, Xuan-Teng Huang, Wei-Hong Li, and Wei-Shi Zheng, "MINI-Net: Multiple Instance Ranking Network for Video Highlight Detection", ***ECCV* 2020**.
- **Fa-Ting Hong**, Wei-Hong Li, and Wei-Shi Zheng, "Learning to Detect Important People in Unlabelled Images for Semi-supervised Important People Detection", ***CVPR* 2020**.
- Wei-Hong Li*, **Fa-Ting Hong***, and Wei-Shi Zheng, "Learning to Learn Relation for Important People Detection in Still Images", ***CVPR* 2019** (***Equal first author**).
- Haiyang Liu, Zhan Xu, **Fa-Ting Hong**, Hsin-Ping Huang, Yi Zhou, and Yang Zhou, "Video Motion Graphs", ***ICCV* 2025 *Accepted***.
- Shuling Zhao, **Fa-Ting Hong**, Xiaoshui Huang, and Dan Xu, "Synergizing Motion and Appearance: Multi-Scale Compensatory Codebooks for Talking Head Video Generation", ***CVPR* 2025**.
- Zunnan Xu, Zhentao Yu, Zixiang Zhou, Jun Zhou, Xiaoyu Jin, **Fa-Ting Hong**, Xiaozhong Ji, Junwei Zhu, Chengfei Cai, Shiyu Tang, Qin Lin, Xiu Li, and Qinglin Lu, "ImPortrait: Implicit Condition Control for Enhanced Portrait Animation", ***CVPR* 2025**.
- Jun Zhou, Jiahao Li, Zunnan Xu, Hanhui Li, Yiji Cheng, **Fa-Ting Hong**, Qin Lin, Qinglin Lu, and Xiaodan Liang, "FireEdit: Fine-grained Instruction-based Image Editing via Region-aware Vision Language Model", ***CVPR* 2025**.
- Yu Wang, Yunfei Liu, **Fa-Ting Hong**, Meng Cao, Lijian Lin, and Yu Li, "AnyTalk: Multi-modal Driven Multi-domain Talking Head Generation", ***AAAI* 2025**.
- Jia-Run Du, Jia-Chang Feng, Kun-Yu Lin, **Fa-Ting Hong**, Xiao-Ming Wu, Zhongang Qi, Ying Shan, and Wei-Shi Zheng, "Weakly-Supervised Temporal Action Localization by Progressive Complementary Learning", ***TCSVT* 2024**.
- Yu-Kun Qiu, **Fa-Ting Hong**, Wei-Hong Li, and Wei-Shi Zheng, "Learning Relation Models to Detect Important People in Still Images", ***TMM* 2022**.
- Jia-Chang Feng, **Fa-Ting Hong**, and Wei-Shi Zheng, "MIST: Multiple Instance Self-Training Framework for Video Anomaly Detection", ***CVPR* 2021**.

- Ling-An Zeng, **Fa-Ting Hong**, Wei-Shi Zheng, Qi-Zhi Yu, Wei Zeng, Yao-Wei Wang, and Jian-Huang Lai, "Hybrid Dynamic-static Context-aware Attention Network for Action Assessment in Long Videos", ***ACM MM* 2020**.
- Yuhong Liang, **Fa-Ting Hong**, Qinjie Lin, Sheng Bi, and Liqian Feng, "Optimization of Robot Path Planning Parameters Based on Genetic Algorithm", ***RCAR* 2017**.

PATENTS

An image/video important people detection method combining deep learning and relationship modeling

- Inventor: Wei-Shi Zheng, **Fa-Ting Hong**
- Authorization Publication Number: CN111008558B
- Status: Authorized
- Country/Region: China

Training methods, training devices and detection methods for vehicle trajectory detection models

- Inventor: Yunteng Xian, **Fa-Ting Hong**, Xianxu Xie, Ji Tang
- Application Publication Number: CN114612868A
- Status: Filed
- Country/Region: China

Pose Correlation Based Digital Video Generation

- Inventor: Zhixin Shu, Zhan Xu, Yang Zhou, **Fa-Ting Hong**, Duygu Ceylan
- Docket No.: P13394-US
- Status: Filed
- Country/Region: US

AWARDS

- Chinese Graduate Student National Scholarship, by the Ministry of Education of China, 2020
- Chinese National Scholarship (Top 1%), by the Ministry of Education of China, 2017

PROJECTS

National Innovation and Entrepreneurship Project *2016 - 2018*

- Title: Research on Robot Autonomous Navigation Based on Lidar
- Role: Team Leader & Main Contributor
- Project Acceptance Evaluation: Excellent

Alibaba - HKUST Research Collaboration *2021 - 2022*

- Project Title: Depth-Aware Talking Head Video Generation
- Role: Main Contributor
- Outcome: A CVPR 2022 paper

Adobe - HKUST Research Collaboration *May 2024 - Aug. 2024*

- Project Title: Free-viewpoint Human Animation
- Role: Main Contributor
- Outcome: A CVPR 2025 paper

Tencent Hunyuan - HKUST Research Collaboration *Oct. 2024 - Mar. 2025*

- Project Title: Audio-visual Controlled Video Diffusion for Talking Head Generation
- Role: Main Contributor
- Outcome: An ICCV 2025 paper

Meta - HKUST Research Collaboration *Jun. 2025 - Dec. 2025*

- Project Title: 4D Real-Time Avatar Neural Renderer
- Role: Main Contributor
- Expected Outcome: A CVPR 2026 paper