Pan Huang

RI: Computational Pathology, XAI, MLLMs, MAgent
IEEE Member, MICCAI Member
Associate Editor of IEEE JBHI
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Education and Employment

- **Xinjiang University (211, P.R. China)** *2016-2020*
  Bachelor of Engineering, Communication Engineering — School of Information Science and Engineering
- **Chongqing University (985, P.R. China)** *2020-2021*
  Master student, Information and Communication Engineering — School of Microelectronics and Communication Engineering
- **Nanyang Technological University (Singapore, QS 15)** *2023-2024*
  Visiting PhD student, Medical Information and Images Processing — School of Humanities
- **Chongqing University (985, P.R. China)** *2021-2025*
  Doctor of Philosophy, Instrument Science and Technology — College of Optoelectronic Engineering
- **The Hong Kong Polytechnic University (Hong Kong, QS 54)** *2025-present*
  Postdoctoral Fellow, AI for Healthcare — Centre for Smart Health

Publication

- **Overview**
  - During my Ph.D. and postdoctoral training, I have published 25 SCI JCR Q1 papers as first or corresponding author. My representative works include publications in leading AI and medical imaging venues such as Information Fusion (IF 18.6), IEEE Journal of Automatica Sinica (IF 19.2), IEEE Transactions on Circuits and Systems for Video Technology (IF 11.1), IEEE Transactions on Medical Imaging (IF 11.037), Medical Image Analysis (IF 11.8), IEEE Journal of Biomedical and Health Informatics (IF 7.7), MICCAI, and IEEE Transactions on Instrumentation and Measurement. My work has received over 1,000 citations on Google Scholar, with an H-index of 20 and an i10-index of 25. I currently serve as **Associate Editor for IEEE JBHI**, Associate Editor for Frontiers in Oncology, Guest Editor for Applied Sciences, and Area Chair for IJCNN 2025.
- **Selected Publications (15 papers, Computational pathology for squamous cell carcinoma)**
  - 1. **P. Huang** et al., MamlFormer: Priori-experience Guiding Transformer Network via Manifold Adversarial Multi-modal Learning for Laryngeal Histopathological Grading. **Information Fusion** (**INFFUS**), 2024. (**IF=18.6**, **Online**, JCR Q1, Top journal in Computer Science, **First author**)
  - 2. **P. Huang** et al., A ViT-AMC Network with Adaptive Model Fusion and Multiobjective Optimization for Interpretable Laryngeal Tumor Grading from Histopathological Images. **IEEE Transactions on Medical Imaging** (**TMI**), 2023. (**IF=11.037**, JCR Q1, Top journal in Medical Image, **First author**)(**ESI Highly Cited Paper)**
  - 3. **P. Huang**, X. Luo, FDTs: A Feature Disentangled Transformer for Interpretable Squamous Cell Carcinoma Grading. **IEEE Journal of Automatica Sinica (IEEE JAS)**, 2025. (**IF=19.2**, JCR Q1, Top journal in Computer Science, **First author**)
  - 4. Mingrui Ma, **P. Huang*** et al., A Multi-instance Learning Network with Prototype-instance Adversarial Contrastive for Cervix Pathology Grading. **Medical Image Analysis (MIA)**, 2025. (**IF=11.8**, JCR Q1, Top journal in Medical Image, **Corresponding author**)
  - 5. Rui Deng, Shipeng Hu, **Pan Huang***, Yuchun Sun et.al, TexSem-Net: Texture Augmentation and Regional Semantics Fusion Dense-Prediction Network for Cervical Squamous Cell Carcinoma Histopathological Images. **IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)**, 2026. (**IF=11.1**, JCR Q1, Top journal in Computer Science, **Co-first author**)
  - 6. **P. Huang** et al., LA-ViT: A Network with Transformers Constrained by Learned-Parameter-Free Attention for Interpretable Grading in a New Laryngeal Histopathology Image Dataset. **IEEE Journal of Biomedical and Health Informatics** (**IEEE-JBHI**), 2024. (**IF=7.7**, **Online**, JCR Q1, Top journal in Medical Information, **First author**)
  - 7. **P. Huang**, X. Tan, X. Zhou, S. Liu, F. Mercaldo and A. Santone, "FABNet: Fusion Attention Block and Transfer Learning for Laryngeal cancer Tumor Grading in P63 IHC Histopathology Images," in **IEEE Journal of Biomedical and Health Informatics (IEEE-JBHI)**, 2022. (**IF=7.021**, JCR Q1, Top journal in Medical Information, **First author**)
  - 8. Chentao Li, **P. Huang***, Jing Qin, Xin Luo, An End-to-end Knowledge-driven Multi-instance Learning Network with Hierarchical Cluster-incorporated Aware Filtering for Larynx Pathological Grading. **IEEE Journal of Biomedical and Health Informatics (IEEE-JBHI)**, 2025. (**IF=6.8**, JCR Q1, Top journal in Medical Information, **Corresponding author**)
  - 9. Chentao Li, **P. Huang***, Prototype-boosted Instance-semantic Disentanglement with Low-rank Regularized Subspace Clustering for WSIs Explainable Recognition. **MICCAI**, 2026, **Corresponding author**.

– 10. Chentao Li, **P. Huang***, Positive Semi-definite Latent Factor Grouping-Boosted Clusterreasoning Instance Disentangled Learning for WSI Representation. **MICCAI**, 2026, **Corresponding author**.

– 11. Yusong Mao, **P. Huang*** et al., Manifold Neuron Energy Network-enhancing Dysplastic Cells Perception for Lung Adenocarcinoma Subtypes Recognition. *IEEE Transactions on Instrumentation and Measurement* (TIM), 2026. (**IF=5.6**, JCR Q1, Top journal in Instrument Science, **Corresponding author**)

– 12. **P. Huang** et al., Interpretable Laryngeal Tumor Grading of Histopathological Images via Depth Domain Adaptive Network with Integration Gradient CAM and ROI-Guided Attention.**Computers in Biology and Medicine** (**CIBM**), 2023. (**IF=7.7**, JCR Q1, **First author**)

– 13. Jiayang Luo*, **P. Huang*** et al., DCA-DAFFNet: An End-to-end Network with Deformable Fusion Attention and Deep Adaptive Feature Fusion for Laryngeal Tumor Grading from Histopathology Images. **IEEE Transactions on Instrumentation and Measurement** (**TIM**), 2023. (**IF=5.6**, Online, JCR Q1, Top journal in Instrumentation Science, **He co-supervised master's student Jiayang Luo to complete this work, Co-first author**)

– 14. Yingbo Qu*, Xiangli Zhou, Pan Huang@ et al., CGAM: An End-to-end Causality Graph Attention Mamba Network for Esophageal Pathology Grading. **Biomedical Signal Processing and Control (BSPC)**, 2024. (**IF=4.9**, JCR Q1, **Corresponding author**)**(ESI Highly Cited Paper)**

– 15. F. Meng, P.Huang et al., "DEW-Net: A W-Shaped Dual-Encoder Network with Attention Fusion Mechanisms for Pathological H&E Image Segmentation,". **IEEE Journal of Biomedical and Health Informatics** (IEEE-JBHI), 2026.

Achievements

- **China National Scholarship (PhD student)** *11/2024*
- **China Instrument & Control Society Scholarship (PhD student)** *07/2024*
- **China Scholarship Council Scholarship (PhD student)** *07/2023*
- **The 13th Annual National Undergraduate Innovation and Entrepreneurship Conference** *09/2020*
- **The Outstanding undergraduate graduate from Xinjiang University** *06/2020*
- **The Outstanding Undergraduate Thesis in Xinjiang University** *06/2020*
- **The 12th China Undergraduate Computer Design Competition National Second Prize** *08/2019*
- **National Encouragement Scholarship** *11/2017, 11/2019*

Reviewer (Served as reviewer for more than 70 journals and conferences)

- **IEEE Transactions on Multimedia** *2 times*
- **IEEE Journal of Biomedical and Health Informatics** *18 times*
- **Information Fusion** *10 times*
- **Medical Image Analysis** *5 time*
- **IEEE Transactions on Circuits and Systems for Video Technology** *3 times*
- **IEEE Transactions on Emerging Topics in Computational Intelligence** *1 times*
- **IEEE Transactions on Systems, Man, and Cybernetics: Systems** *2 times*

Funding

•2023 Graduate Student Research Innovation Program of Chongqing *06/2023-06/2025*

'Research on intelligent pathology grading technique for LSCC based on interpretable deep learning'

– Project No: CYB23047 (*Project Leader*)

•2018 National Student Innovation Training Program Project *10/2018-12/2019*

'Design and Implementation of Embedded and Adroid-based Smart Bracelet System Implementation'

– Project No: 201810755037 (*Project Leader*)

•2019 Xinjiang Autonomous Region-level Student Innovation Training Program Project *05/2019-06/2021*

'DSP-based Intelligent Guide System for the Blind'

– *Project Member*

•2022 Chongqing Technology Innovation and Application Development Key Project *03/2023-03/2026*

'Research and development of pathology digital and artificial intelligence assisted diagnosis equipment'

– *Project Member*

Skills

Languages: English CET 6, CET 4, Chinese
Programming Languages: Python, C, Matlab, R