

Stanford



Wei Peng

Postdoctoral Scholar, Psychiatry

Bio

BIO

I am a Postdoctoral Researcher at CNSlab, advised by Professor Kilian. I received my PhD from University of Oulu, Finland, where I was advised by Academy Professor Guoying Zhao. During my PhD study, I was lucky enough to have the opportunity to visit Harvard Medical School and CVL, ETH Zurich. Prior to that, I received the B.E. degree from UESTC, China, and Master degree from Xiamen University, China. My research interests include Machine Learning, Geometric neural networks, Medical image analysis with special emphasis on Neuroscience.

HONORS AND AWARDS

- Finnish AI Dissertation Award 2022, Finnish AI Society (2023)
- ISMRM Magna Cum Laude Merit Award, ISMRM (2022)
- Excellent for my doctoral thesis defense, University of Oulu (2022)
- Best conference paper award (Finland Section), IEEE (2020)
- The 2nd Place on light-weight Action Recognition, ECCV (2020)

STANFORD ADVISORS

- Kilian Pohl, Postdoctoral Faculty Sponsor

LINKS

- Homepage: <https://xiaoiker.github.io/>
- Google Scholar: <https://scholar.google.com/citations?user=TDFM0QYAAAAJ&hl=en>

Publications

PUBLICATIONS

- **Metadata-conditioned generative models to synthesize anatomically-plausible 3D brain MRIs.** *Medical image analysis*
Peng, W., Bosschieter, T., Ouyang, J., Paul, R., Sullivan, E. V., Pfefferbaum, A., Adeli, E., Zhao, Q., Pohl, K. M.
2024; 98: 103325
- **MedSyn: Text-guided Anatomy-aware Synthesis of High-Fidelity 3D CT Images.** *IEEE transactions on medical imaging*
Xu, Y., Sun, L., Peng, W., Jia, S., Morrison, K., Perer, A., Zandifar, A., Visweswaran, S., Eslami, M., Batmanghelich, K.
2024; PP
- **Generating Realistic Brain MRIs via a Conditional Diffusion Probabilistic Model.** *Medical image computing and computer-assisted intervention : MICCAI ... International Conference on Medical Image Computing and Computer-Assisted Intervention*
Peng, W., Adeli, E., Bosschieter, T., Hyun Park, S., Zhao, Q., Pohl, K. M.
2023; 14227: 14-24

- **TOPLight: Lightweight Neural Networks with Task-Oriented Pretraining for Visible-Infrared Recognition**
Yu, H., Cheng, X., Peng, W., IEEE
IEEE COMPUTER SOC.2023: 3541-3550
- **Hyperbolic Deep Neural Networks: A Survey.** *IEEE transactions on pattern analysis and machine intelligence*
Peng, W., Varanka, T., Mostafa, A., Shi, H., Zhao, G.
2022; 44 (12): 10023-10044
- **Learning Optimal K-space Acquisition and Reconstruction using Physics-Informed Neural Networks**
Peng, W., Feng, L., Zhao, G., Liu, F., IEEE COMP SOC
IEEE COMPUTER SOC.2022: 20762-20771
- **Tripool: Graph triplet pooling for 3D skeleton-based action recognition** *PATTERN RECOGNITION*
Peng, W., Hong, X., Zhao, G.
2021; 115
- **Revealing the Invisible with Model and Data Shrinking for Composite-database Micro-expression Recognition.** *IEEE transactions on image processing : a publication of the IEEE Signal Processing Society*
Xia, Z., Peng, W., Khor, H. Q., Feng, X., Zhao, G.
2020; PP
- **Learning Graph Convolutional Network for Skeleton-Based Human Action Recognition by Neural Searching**
Peng, W., Hong, X., Chen, H., Zhao, G., Assoc Advancement Artificial Intelligence
ASSOC ADVANCEMENT ARTIFICIAL INTELLIGENCE.2020: 2669-2676
- **Mix Dimension in Poincare Geometry for 3D Skeleton-based Action Recognition**
Peng, W., Shi, J., Xia, Z., Zhao, G., ASSOC COMP MACHINERY
ASSOC COMPUTING MACHINERY.2020: 1432-1440
- **Remote Heart Rate Measurement from Highly Compressed Facial Videos: an End-to-end Deep Learning Solution with Video Enhancement**
Yu, Z., Peng, W., Li, X., Hong, X., Zhao, G., IEEE
IEEE COMPUTER SOC.2019: 151-160
- **Large Language Models in Healthcare and Medical Domain: A Review** *INFORMATICS-BASEL*
Nazi, Z., Peng, W.
2024; 11 (3)
- **Geometric Graph Representation With Learnable Graph Structure and Adaptive AU Constraint for Micro-Expression Recognition** *IEEE TRANSACTIONS ON AFFECTIVE COMPUTING*
Wei, J., Peng, W., Lu, G., Li, Y., Yan, J., Zhao, G.
2024; 15 (3): 1343-1357
- **Data Leakage and Evaluation Issues in Micro-Expression Analysis** *IEEE TRANSACTIONS ON AFFECTIVE COMPUTING*
Varanka, T., Li, Y., Peng, W., Zhao, G.
2024; 15 (1): 186-197
- **Rethinking Few-Shot Class-Incremental Learning With Open-Set Hypothesis in Hyperbolic Geometry** *IEEE TRANSACTIONS ON MULTIMEDIA*
Cui, Y., Yu, Z., Peng, W., Tian, Q., Liu, L.
2024; 26: 5897-5910
- **LSOR: Longitudinally-Consistent Self-Organized Representation Learning.** *Medical image computing and computer-assisted intervention : MICCAI ... International Conference on Medical Image Computing and Computer-Assisted Intervention*
Ouyang, J., Zhao, Q., Adeli, E., Peng, W., Zaharchuk, G., Pohl, K. M.
2023; 14220: 279-289
- **Efficient Hyperbolic Perceptron for Image Classification** *ELECTRONICS*
Ahsan, A., Tang, S., Peng, W.
2023; 12 (19)
- **Hyperbolic Uncertainty Aware Semantic Segmentation** *IEEE TRANSACTIONS ON INTELLIGENT TRANSPORTATION SYSTEMS*

Chen, B., Peng, W., Cao, X., Roning, J.
2023

- **Imputing Brain Measurements Across Data Sets via Graph Neural Networks.** *PRedictive Intelligence in MEdicine. PRIME (Workshop)*

Wang, Y., Peng, W., Tapert, S. F., Zhao, Q., Pohl, K. M.
2023; 14277: 172-183

- **Modality Unifying Network for Visible-Infrared Person Re-Identification**

Yu, H., Cheng, X., Peng, W., Liu, W., Zhao, G., IEEE
IEEE COMPUTER SOC.2023: 11151-11161