Chenhui Wang

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Summary

I am a **fourth-year direct Ph.D. student** in Biomedical Engineering (BME) at *the Institute of Science and Technology for Brain-inspired Intelligence, Fudan University (FDU),* under the supervision of Professor **Hongming Shan**. I received my Bachelor's degree in Software Engineering (SE) from *the School of Computer Science and Artificial Intelligence, Wuhan University of Technology (WHUT)*.
Research Interests: *AI for neuroscience, Generative model, Representation learning, Multimodality*.

Education

Fudan University – PhD in Biomedical Engineering: GPA: 3.6/4.0 **(Ranked 1st in Major)** *Sept 2021*
Wuhan University of Technology – Bachelor in Software Engineering: GPA: 4.4/5.0 **(Top 0.6%)** *Sept 2016*

Honors and Awards

National Scholarships (3 times) – once at FDU and twice at WHUT
IJCAI 2024 Travel Grant & Overseas Participation Funding – FDU *Jun 2024*
Top Ten Outstanding Students (Top 0.01%) & Excellence Scholarship (Top 0.1%) – WHUT *May 2021*

Publications

1. **C. Wang**, S. Piao, Z. Huang, Q. Gao, J. Zhang, Y. Li, and H. Shan. "Joint learning framework of cross-modal synthesis and diagnosis for Alzheimer's disease by mining underlying shared modality information." **Med. Image Anal.**, 91, 103032, 2024. [*3D MRI-to-PET synthesis*|*AD diagnosis*|*Joint learning framework*]
2. **C. Wang**, Y. Lei, T. Chen, J. Zhang, Y. Li, and H. Shan. "HOPE: Hybrid-granularity Ordinal Prototype Learning for Progression Prediction of Mild Cognitive Impairment." **IEEE J. Biomed. Health Inform.**, 28(11), 6429-6440, 2024. [*AD ordinal progression*|*MCI prediction*|*Rank-based prototype learning*]
3. **C. Wang**, T. Chen, Z. Chen, Z. Huang, T. Jiang, Q. Wang, and H. Shan. "FLDM-VTON: Faithful Latent Diffusion Model for Virtual Try-on." International Joint Conference on Artificial Intelligence (**IJCAI oral**), 2024. [*Virtual Try-on*|*Latent diffusion*]
4. **C. Wang**, *S. Piao*, *J. Wang*, Z. Li, M. Cui, J. Zhao, Q. Guo, J. Zhang, F. Xie, Y. Li, and H. Shan. "GenPET Enables Diagnostic Multi-tracer PET Synthesis for Early Detection of Alzheimer's Disease." **submitted to Nat. Commun.** in 2025. [*3D MRI-to-multi-tracer PET synthesis*|*Diffusion transformer*]
5. **C. Wang**, Z. Chen, T. Chen, Z. Li, and H. Shan. "X-MoE: Anatomically Explainable Mixture of Experts for AD Diagnosis". **submitted to MICCAI** in 2025. [*AD diagnosis*|*Explainable mixture-of-Experts*|*Brain atlas*]
6. T. Chen, **C. Wang**, Z. Chen, Y. Lei, and H. Shan. "HiDiff: Hybrid diffusion framework for medical image segmentation." **IEEE Trans. Med. Imaging**, 43(10), 3570-3583, 2024. [*Segmentation*|*Hybrid framework*]
7. T. Chen, **C. Wang**, and H. Shan. "BerDiff: Conditional Bernoulli Diffusion Model for Medical Image Segmentation". International Conference on Medical Image Computing and Computer-Assisted Intervention (**MICCAI**), 2023. [*Segmentation*|*Diffusion model*|*Bernoulli*]
8. T. Chen, **C. Wang**, Z. Chen, and H. Shan. "Autoregressive Medical Image Segmentation via Next-Scale Mask Prediction." **submitted to MICCAI** in 2025. [*Segmentation*|*Autoregressive model*|*Next-scale*]
9. Z. Chen, T. Chen, **C. Wang**, Q. Gao, C. Niu, G. Wang, and H. Shan."Low-dose CT denoising with language-engaged dual-space alignment." IEEE International Conference on Bioinformatics and Biomedicine (**BIBM**), 2024. [*low-dose CT denoising*|*LLM-guided*]

Skills and Experience

English & Coding: CET-6 & Python, PyTorch, *.etc*
Journal Reviewer: MedIA, PR, IEEE TCSVT, AIIM, CAAI TIT, PRLETTERS, BMC MI, IEEE ACCESS, and CCPE
Conference Reviewer: IJCAI, MICCAI, BIBM, MIDL, and IJCNN
Patents: CN202210748948.X, CN202310278934.0, CN202410412376.7
Competitions: *National First prize* in the Chinese Collegiate Computing Competition of 2020, *International Second Prize* in the ASC20-21 Asian Student Supercomputer Challenge.