

# 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: 3.62/4.00 (**Ranked 1st in Major**) Sept 2021

**Wuhan University of Technology** – Bachelor in Software Engineering: GPA: 4.41/5.0 (**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 NEJM AI** 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, **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.