

Ziquan Wei
ziquanw@email.unc.edu
ziquanw.com

Address: 336 Emergency Room Dr, Office 372B, Chapel Hill, NC 27514

Research Interests: Brain Foundation Model; Multimorbidity Reasoning; Medical Image Analysis

Education

- | | |
|----------|---|
| 2023–28* | Ph.D. , Computer Science, University of North Carolina at Chapel Hill (Advisor: Dr. Guorong Wu) |
| 2019–22 | M.Sc. , Biomedical Engineering, Huazhong University of Science and Technology (Advisor: Prof. Shaoqun Zeng) |
| 2015–19 | B.Sc. , Computer Science, Yunnan Normal University (Advisor: Prof. Yang Yang) |

Experience

- | | |
|----------------|---|
| 2023– | Linux System Admin, ACM Lab , UNC Chapel Hill |
| Duties: | Admin of 10-node cluster with 16 GPUs and > 2PB storage. |

Selected Publications

[**G**](#) [Google Scholar](#) see full list of publications

† → Equal contribution

Journal

- [J1] **Ziquan Wei**, T. Dan, J. Ding, P. J. Laurienti, and G. Wu, “NeuroDetour: A neural pathway transformer for uncovering structural-functional coupling mechanisms in human connectome,” *Medical Image Analysis*, vol. 109, p. 103 931, 2026, issn: 1361-8415,
– IF 11.8.
- [J2] **Ziquan Wei** and G. Wu, “Teravoxel microscopy image analysis for neurological diseases,” *Annual Review of Biomedical Engineering*, Just accepted, 2026,
– IF 9.6.
- [J3] **Ziquan Wei**, T. Dan, J. Ding, and G. Wu, “Efficient graph representation learning by non-local information exchange,” *Electronics*, vol. 14, no. 5, p. 1047, 2025,
– IF 2.6.
- [J4] **Ziquan Wei**, Y. Han, M. Li, K. Yang, Y. Yang, Y. Luo, and S.-H. Ong, “A small uav based multi-temporal image registration for dynamic agricultural terrace monitoring,” *Remote Sensing*, vol. 9, no. 9, p. 904, 2017,
– IF 4.1.

*Expected.

Conference

- [C1] **Ziquan Wei**, T. Dan, and G. Wu, “Large connectome model: An fmri foundation model of brain connectomes empowered by brain-environment interaction in multitask learning landscape,” in *Proceedings of the AAAI Conference on Artificial Intelligence*, [AAAI](#), 2026.
- [C2] **Ziquan Wei**, T. Dan, T. Chen, and G. Wu, “BrainMoE: Cognition joint embedding via mixture-of-expert towards robust brain foundation model,” in *The Thirty-ninth Annual Conference on Neural Information Processing Systems*, [NeurIPS](#), 2025.
- [C3] **Ziquan Wei**, T. Dan, and G. Wu, “Brain-environment cross-attention (BECA) meta-matching: A new perspective of brain connectome zero-shot learning,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer Nature Switzerland, [MICCAI](#), 2025, pp. 140–149,
– Early accept (9%).
- [C4] **Ziquan Wei**, T. Dan, J. Ding, P. Laurienti, and G. Wu, “Representing functional connectivity with structural detour: A new perspective to decipher structure-function coupling mechanism,” in *proceedings of Medical Image Computing and Computer Assisted Intervention*, Springer Nature Switzerland, [MICCAI](#), 2024, pp. 367–377.
- [C5] **Ziquan Wei**, T. Dan, J. Ding, and G. Wu, “NeuroPath: A neural pathway transformer for joining the dots of human connectomes,” in *The Thirty-eighth Annual Conference on Neural Information Processing Systems*, [NeurIPS](#), 2024, pp. 67 826–67 849.
- [C6] **Ziquan Wei** and G. Wu, “Non-local exchange: Introduce non-locality via graph re-wiring to graph neural networks,” in *NeurIPS 2024 Workshop on Behavioral Machine Learning*, [NeurIPSW](#), 2024.
- [C7] **Ziquan Wei**, T. Dan, J. Ding, M. Dere, and G. Wu, “A general stitching solution for whole-brain 3d nuclei instance segmentation from microscopy images,” in *International Conference on Medical Image Computing and Computer-Assisted Intervention*, Springer Nature Switzerland Cham, [MICCAI](#), 2023, pp. 46–55,
– Early accept (14%).
- [C8] **Ziquan Wei**, T. Dan, J. Ding, C. McCormick, F. A. Kyere, M. Kim, D. Borland, J. L. Stein, and G. Wu, “High throughput deep model of 3d nucleus instance segmentation by stereo stitching contextual gaps,” in *2023 IEEE 20th International Symposium on Biomedical Imaging*, IEEE, [ISBI](#), 2023, pp. 1–5.
- [C9] S. Zhang[†], Y. Ding[†], **Ziquan Wei[†]**, and C. Guan, “Continuous emotion recognition with audio-visual leader-follower attentive fusion,” in *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops*, [ICCVW](#), 2021, pp. 3567–3574.

Awards & Honors

2024	UNC graduate school transportation grant (\$3,000)
2022	Huazhong University of Science and Technology (HUST) outstanding graduation
2019	Yunnan Normal University (YNNU) outstanding graduation

Last updated: February 8, 2026