

Yuanzhe Liu – CURRICULUM VITAE

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RESEARCH INTERESTS

My current research focuses on neuroimaging and connectomics. I use graph theory, machine learning, neuroimaging, and simulation approaches to study the structure and function of the human brain and their interindividual variations.

SKILLS

MATLAB, Python and scientific libraries, pytorch, graph theory, machine learning, generative modeling, statistics, neuroimaging toolboxes (FSL, MRtrix, FreeSurfer, Connectome Workbench, Halfpipe), linux, SQL.

EDUCATION

2021.11-2025.5	PhD	The University of Melbourne, Australia Advisors: Prof. Andrew Zalesky, Dr. Caio Seguin, Dr. Maria Di Biase
2017.7-2020.11	MEng	The University of Melbourne, Australia.
2012.9-2016.7	BEng	University of Science and Technology Beijing, China.
2014.10-2015.7	BEng	University of California, San Diego.

EMPLOYMENT

2024.9-2025.5	Research Assistant	Systems Lab, University of Melbourne, Australia
2022.10-2024.4	Research Assistant	CYMH, University of Melbourne, Australia

HONORS AND AWARDS

2021	Melbourne Research Scholarship, University of Melbourne
2019	Best Engineering Award, "Segmentation of glioma from brain MRI", DeeCamp

PROFESSIONAL MEMBERSHIP

2022-Present Organization for Human Brain Mapping (OHBM)

REVIEW ACTIVITIES

Ad Hoc Reviewer for journals including Network Neuroscience, and PNAS.

First-authored Publications

1. **Liu, Y.**, Seguin, C., Betzel, R. F., Han, D., Akarca, D., Di Biase, M. A., & Zalesky, A. (2024). A generative model of the connectome with dynamic axon growth. *Network Neuroscience*, 1-47. ([link](#))
2. **Liu, Y.**, Seguin, C., Mansour, S., Oldham, S., Betzel, R., Di Biase, M. A., & Zalesky, A. (2023). Parameter estimation for connectome generative models: Accuracy, reliability, and a fast parameter fitting method. *Neuroimage*, 270, 119962. ([link](#))
3. **Liu, Y.**, Seguin, C., Mansour L, S., Tian, Y. E., Di Biase, M. A., & Zalesky, A. (2025). Deep generation of personalized connectomes based on individual attributes. *bioRxiv*, 2025-02. ([link](#))

Conference Presentations

1. OHBM 2025: "Trait-conditioned Generation of Connectomes" (Accepted).
2. OHBM 2024: "A connectome generative model with dynamic axon growth".
3. OHBM 2022: "Efficient and reliable estimation of generative network models for the human connectome".