

## **Postdoctoral Fellowship in Machine Learning & Brain Imaging at National University of Singapore**

The National University of Singapore invites applications for a research fellow position (post-doctoral fellowship) in the Multimodal Neuroimaging in Neuropsychiatric Disorders Laboratory (MNNDL), [Center for Sleep and Cognition](#) and [Center for Translational Magnetic Resonance](#), Yong Loo Lin School of Medicine, and Department of Electrical and Computer Engineering. More information on the laboratory is available at [www.neuroimaginglab.org](http://www.neuroimaginglab.org).

The MNNDL group at NUS is a multidisciplinary team studying the human neural bases of cognitive functions and the associated vulnerability patterns in aging and neuropsychiatric disorders using multimodal neuroimaging and machine learning methods. We are interested in the large-scale brain structural and functional networks in healthy developing and aging brain and symptoms-related changes in diseases such as neurodegenerative disorders and psychosis. Computational and machine learning methods are developed to analyze multimodal neuroimaging (MR/fMRI/DWI/EEG/PET), genetic, and behavioral data. By integrating longitudinal behavior, neuroimaging, and genotype data, our long-term goal is to investigate the interactions among brain network dynamics, behavior, diseases, and genotypes to develop non-invasive biomarkers for early detection, differential diagnosis, progression monitoring, and treatment design.

The candidate will have the opportunity to interact with faculty, researchers, and students from both medicine and engineering departments and contribute to the development of machine learning approaches to solve problems in neuroscience and medicine. Strong interest in studying brain networks in health and disease using multimodal neuroimaging methods and computational/machine learning approaches would be a plus.

Candidates must have a passionate enthusiasm for research, a strong background in at least one of the following fields: machine learning, neuroimaging analyses, computational neuroscience, neuroinformatics, mathematics/statistics, or related fields. Knowledge in cognitive neuroscience, psychology, or neuropsychiatric disorders is a plus but not necessary. He/she should possess the ability to take the initiative and work independently in a highly collaborative and international research environment. He/she needs to demonstrate creativity, critical thinking, technical independence, and excellent communications/multitasking skills. Proven skills in neuroimaging data analyses and machine learning is a plus.

The lab has access to large-scale local and international neuroimaging datasets in health and disease. Key attractions are access to a high-performance computing cluster (GPU/CPU and more than 300TB of data), two 3T Prisma MR scanners, and an MR compatible digital EEG system as well as collaboration

opportunities with an excellent network of domestic and international scientists and clinicians. Appointments will be made on a two-year contract basis in the first instance, with the possibility of extension. A competitive package will be provided based on experience.

Interested applicants are welcome to email Associate Professor Juan Helen Zhou at [helen.zhou@nus.edu.sg](mailto:helen.zhou@nus.edu.sg) (Twitter: @HelenJuanZhou) with the application letter, curriculum vitae, and contacts of at least two references. Only shortlisted candidates will be invited for an interview.