



Name: Minjeong Kim

Position: Assistant Professor

Affiliation: Department of Computer Science, University
of North Carolina at Greensboro, USA

Presentation Title:

Graph Inference in Group-level Neuroimage Analysis

Abstract:

Due to heterogeneous data sources, multi-modal characteristics, and data imbalance in neuroimaging data, data harmonization is getting more attention toward more accurate and efficient group-level analysis. For example, networks of biomarker covariance based on neuropathological events or neuro-degeneration degrees are important for understanding brain development/aging process and disease progression. It is common to quantify the covariance of inter-subject biomarker profiles by linear correlation metrics. Due to the heterogeneity and noise in the observed neurobiological data, however, it is difficult to construct a reliable covariance network using gross statistical measurement. To this end, we investigate the graph approach to infer correlations between individuals based on the harmonized inter-subject biomarker profiles. A better understanding of the network topology allows us to harmonize the neurobiological data effectively, which eventually facilitates graph inference.

Brief Biosketch

Dr. Minjeong Kim is an assistant professor of Computer Science at the University of North Carolina at Greensboro, USA. She has earned her B.S., M.S., and Ph.D. degrees in Computer Science and Engineering from Ewha Womans University. She was with Biomedical Research Imaging Center and the Department of Radiology at UNC-Chapel Hill as a researcher before joining UNCG. Her research focuses on computational methods and machine learning approaches in biomedical imaging towards early diagnosis, outcome prediction, treatment planning, imaging biomarker discovery, and human brain connectome. She has authored over **100 peer-reviewed journal articles and conference papers in the domain. Her research has been supported by NIH, NSF, and NC Biotechnology Center.**