Working Group on Statistical Learning Seminar

Title: Variational Bayesian Hierarchical Mixture Clustering and Regularisation

Speaker: Weipeng Huang (University College Dublin)

Date: Mon 30th September 2019 at 12:00PM

Location: Seminar Room SCN 1.25

Abstract: Hierarchical clustering is a task that aims for building hierarchies for a collection of items, and its applications are commonly seen in daily life. This fact motivates us to keep seeking better methods, in particular, those which not only maintain theoretical guarantee but are also capable of handling extensive data. This work continues developing the statistical approach, Bayesian Hierarchical Mixture Clustering (BHMC), which constructs the hierarchies with a generative process tackling the data with complex latent structures. To further enhance the structure of the generated hierarchies, we propose a regularisation to the posterior of the BHMC model. Besides, we implement a variational Bayes (VB) approach since VB is scalable and can integrate with the regularised posterior trivially.