Data Mining and Analytics, Reading Course, KTH

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Graph representation learning has gained much recent attention for its many downstream applications such as recommendation and classification over networks. Despite most real-world graphs being heterogeneous, recent research work has focused on homogenous graphs where the nodes and edges are of one type. In the course, we choose to highlight recent work on heterogeneous graph representation learning for the rich structure and semantic information this type of graphs typically have, hence our choice of the papers. The three papers we chose, propose different techniques to represent the heterogeneity aspect in the graph, as well as how to learn from.

Selected papers:

- “HIN2Vec: Explore Meta-paths in Heterogeneous Information Networks”, CIKM 2017
- “HAN: Heterogeneous Graph Attention Network”, WWW 2019
- “MultiSage: Empowering GCN with Contextualized Multi-Embeddings”, KDD 2020