

Graph Machine Learning Midterm Study Guide 1/11/2023

- Graph Learning Fundamentals
 - a. Non-IID, non-Euclidean data
 - b. Relational/structural learning + feature learning
- Link Analysis
 - a. Page Rank, personalized PageRank, and variants.
 - b. Random walk, markov property in graphs
- Relational classification for predicting node labels
 - a. Probabilistic relational classification
 - b. Iterative node classification
- Machine learning, neural networks, and convolution networks fundamentals
 - a. Representation learning, curse of dimensionality
 - b. Basics of stochastic gradient descent and optimizing a loss function
 - c. Convolution operation
- Graph Neural Network
 - a. Expressiveness for generating high quality node embeddings: node, edges, and graph
 - b. Permutation invariance, permutation equivariance
 - c. Message passing, aggregation, and update operations
 - d. Basic models