Graph Machine Learning Final Exam Study Guide 2/16/2023

Comprehensive exam with emphasis on the last half of the course.

- Fundamental properties of Graph Neural Networks (GNN)
    a. What differentiates GNN from other neural networks.
    b. Inductive biases in various neural networks.
    c. Invariance, equivariance.
    d. Representation learning.
    e. Challenges when working with graph data.
- Concepts and processes of GNN's
    a. Understate the basic concepts and processes used for GNN training and inference.
    b. Message passing, aggregation, and update operations.
- Basic concepts, rationale, and application of various types graph neural networks
    a. Graph Neural Network (GNN), Graph Convolutional Networks (GCN), GraphSage, Graph Relational Networks, Graph Attention Networks, Generative Graph Models and Temporal Graph Models.
    b. Advantages/disadvantages
- Application of GNN's
    a. Emphasize laboratory
    b. Node level prediction, edge level prediction, graph level prediction