GNN

Liang Hong
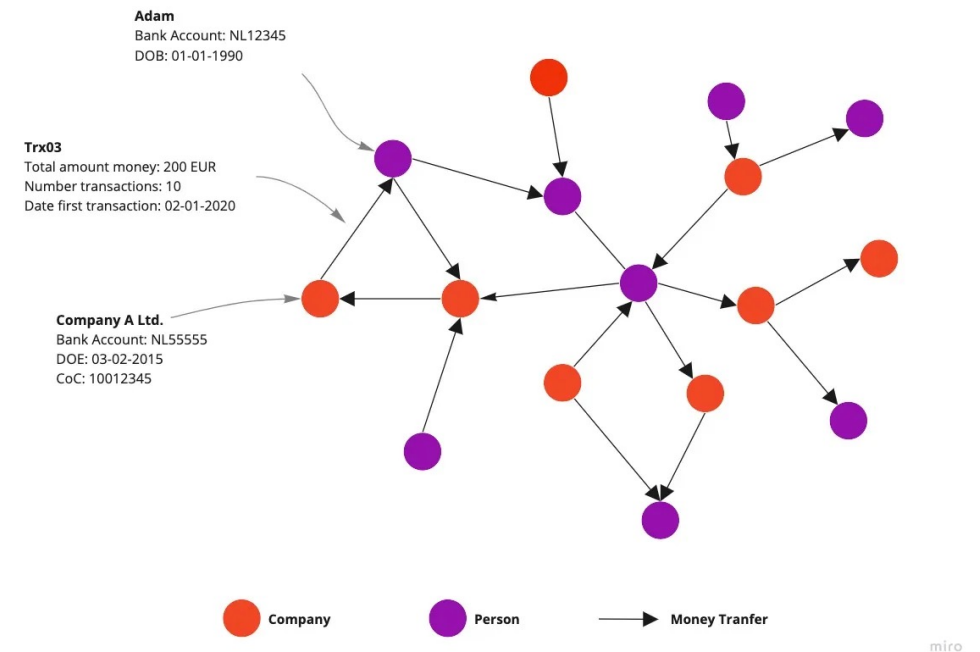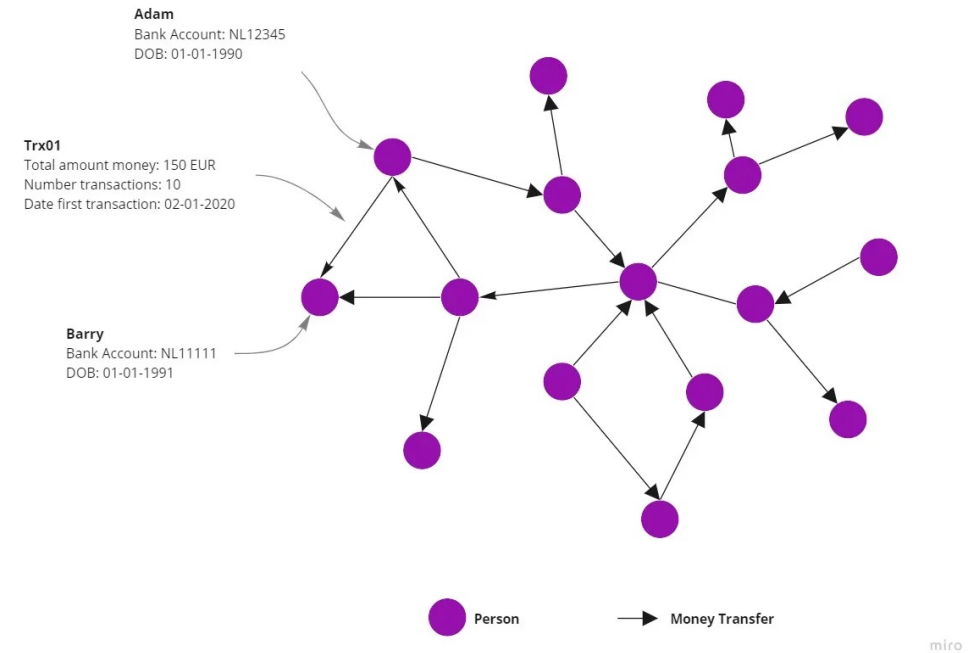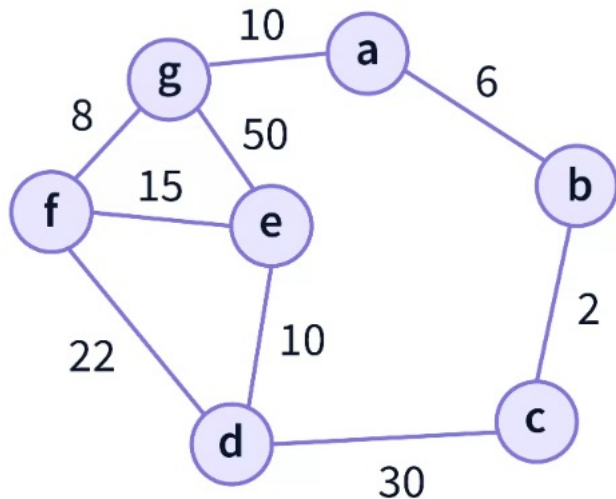
30 Mar 2023

Outline

- Graph data
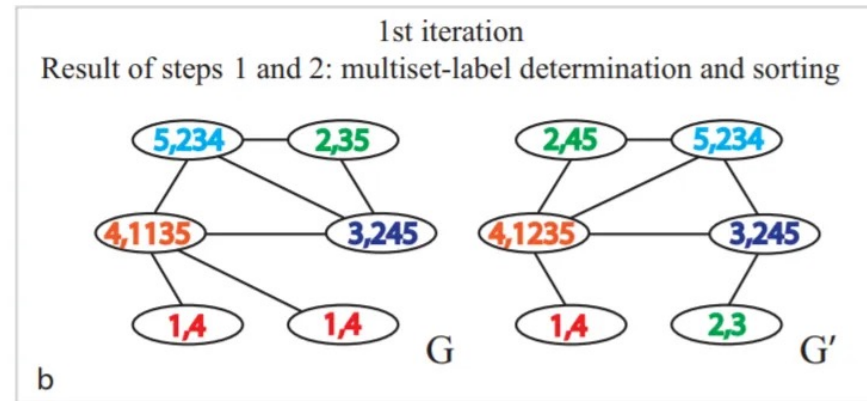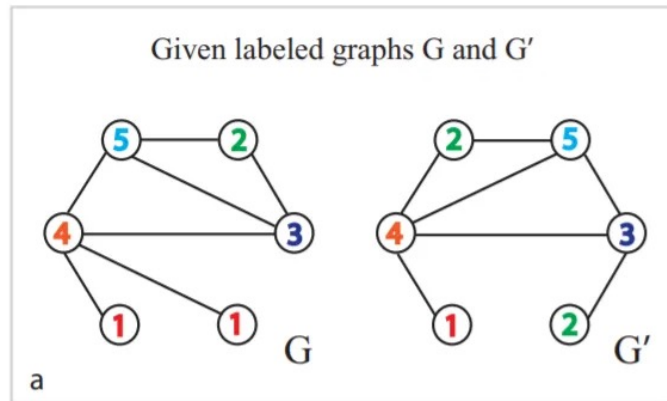- Data type conversion
- NN on graph

Graph data

- Directed VS undirected
- Homogeneous VS Heterogeneous
- Weighted VS unweighted
- Geometric (with angle!)

Data type conversion

- ## Kernel methods

Mostly used in node classification

Given labeled graphs G and G′

1st iteration
Result of steps 1 and 2: multiset-label determination and sorting
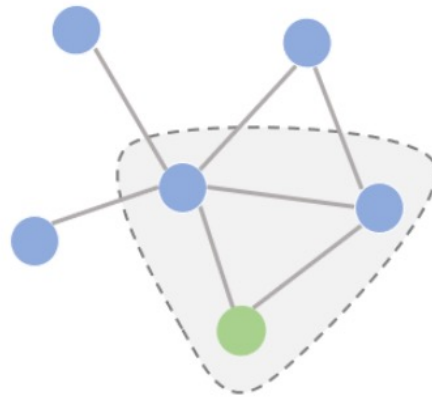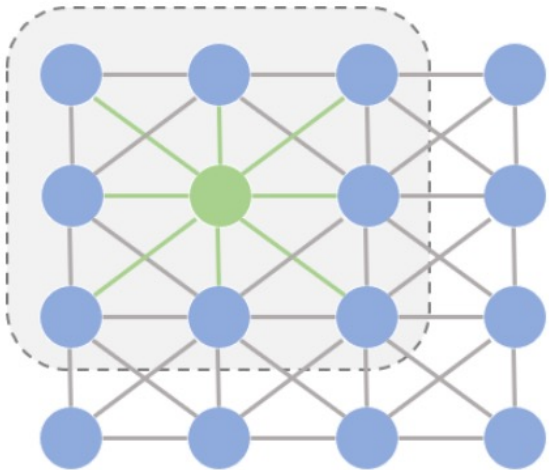
WL kernel

Also, there are walk-base kernel etc.

Try to convert graph to multi-dimensional data

NN on graph

- CNN – GCN/MPNN

- Message passing
- Update embedding
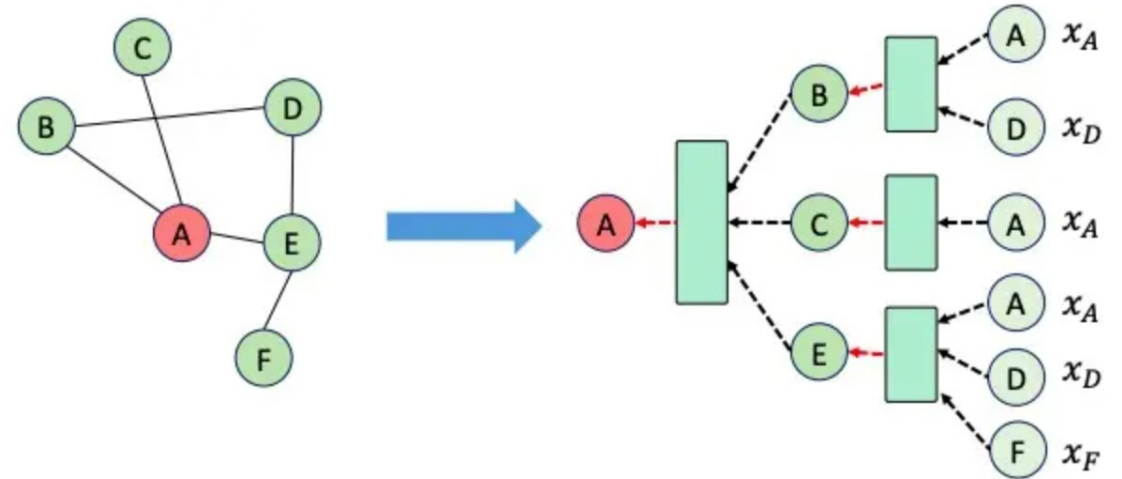
NN on graph

- Attention -- GAT