Week 07 Tutorial

Cohesive subgraph mining and Node feature engineering

Aims

This exercise aims to get you to:

- Understand the concept of k-core and k-truss
- Implement the algorithm for k-core computation
- Review basic node feature engineering

Exercise 1: Cohesive subgraph mining

1. Review k-core computation algorithm.
2. Find the k-core for $1<=k<=3$ in Figure 1.
3. Review k-truss decomposition.
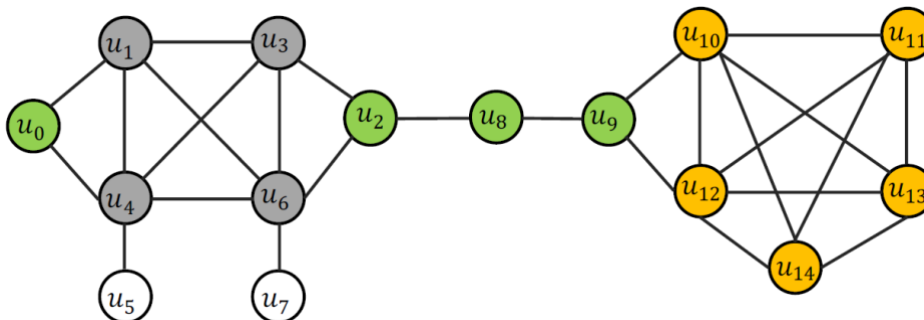4. Implement KcoreDecomposition function in tutorial_7.py.

Figure 1

Exercise 2: Node feature engineering

1. Review the definition of basic node features.
2. In Figure 2, compute the clustering coefficients for nodes D and F.
3. In Figure 2, Compute the graphlet degree vector for nodes B and G based on the graphlet given in Figure 3.
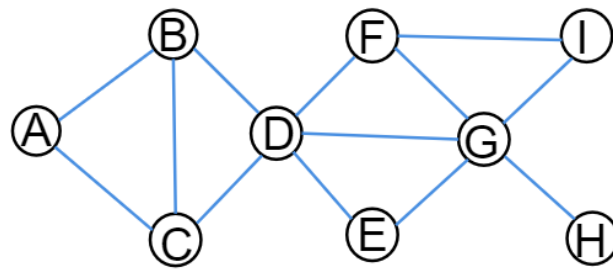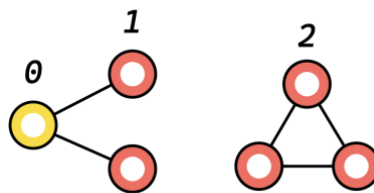
Figure 2

Figure 3