



Graph

Nodes (vertices) connected by Edges

Graph Types

Directed

Undirected

Weighted

Attributed

Graph Properties



Degree: # of connections



Density: edge ratio

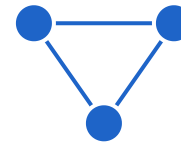


Clustering coeff: local structure

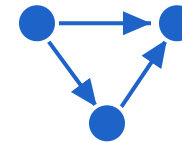


Challenge

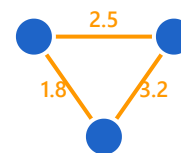
Undirected



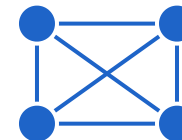
Directed



Weighted



Complete



Traditional ML assumes Euclidean space → Need



Representations

Adjacency Matrix

Edge List



Applications

Social Networks

Molecules

Knowledge Graphs