Input Data

Stage 1: Relevant Meta-Paths Discovery

Stage 2: Link Prediction Model Training

Known Company-Key Personnel Edges

Billion-Scale Heterogeneous Graph

K-Hop Pair-Path Finder

Sort & Divide Base on Match Rate

Relevant Meta-Path Types

All Instances of Relevant Meta-Paths

Main Meta-Paths

Auxiliary Meta-Paths

Selected Pairs with Label

Positive:

Negative:

Pair2Paths Mapping

Meta-Paths for Each Selected Pair

Sequential Meta-Path Features

PairPaths2Link

Loss Function

Trained Model Parameters

Meta-Path Sampling

Sampling Results

Main Meta-Paths

Auxiliary Meta-Paths

Selected Pairs without Label

Pair2Paths Mapping

Meta-Paths for Each Selected Pair

PairPaths2Link

Sequential Meta-Path Features

Hidden Company-Key Personnel Edges and Associated Probability

0.9

0.8

0.1

Stage 3: Hidden Target Edges Prediction

Output Data