README: Link Prediction Methods

# Overview

This folder contains implementations of several link prediction methods used for network analysis and graph-based machine learning tasks. Each Python script corresponds to a specific algorithm used for estimating edge probabilities in a graph.

# Contents

## 1. USVD.py

USVD stands for Universal Singular Value Decomposition. This method leverages spectral properties of the adjacency matrix by applying low-rank approximation techniques to predict missing links.

## 2. Transfer.py

Transfer implements our transfer learning approach GTRANS for link prediction.

## 3. NS.py

NS refers to Neighborhood Smoothing. This non-parametric method estimates edge probabilities based on local neighborhood averaging, assuming a smooth underlying graphon model.

## 4. SAS.py

SAS is the Sorted and Smoothing method. It reorders the adjacency matrix and applies smoothing based on the assumption that nodes with similar degrees have similar connectivity patterns.

## 5. ICE.py

ICE stands for Iterative Connecting Probability Estimation.