ReadMe Page Mining

This DGL example implements the GNN experiment proposed in the paper Large-Scale Representation Learning on Graphs via Bootstrapping. For the original implementation, see here. This document is about **DGRL** model.

Requirements

The codebase is implemented in Python 3.8. For version requirement of packages, see below.

- dgl 0.8.3
- numpy 1.21.2
- torch 1.10.2
- scikit-learn 1.0.2

Task Mining

Inductive task

python main.py --dataset ppi --graph_encoder_layer 512 --drop_edge_p 0.3 --feat mask p 0.25 --lr 5e-3

Dataset

Dataset summary:

Dataset	Task	Nodes	Edges	Features
WikiCS	Transductive	11,701	216,123	300
Amazon Computers	Transductive	13,752	245,861	767
Amazon Photos	Transductive	7,650	119,081	745
Coauthor CS	Transductive	18,333	81,894	6,805

Argument Selection

Dataset: WikiCS, Amazon Computers, Amazon Photos, Coauthor CS

Graph Encoder Layer: 64, 128, 256, 512, 1024 Learning Rate:1e-3, 5e-3, 1e-2, 5e-2, 1e-1, 5e-1

Multi-Argument Grouping

Argument Group 1 WikiCS, 512, , 5e-3

Argument Group N

Amazon Photos, 256, 5e-1

Diverse Instruction Construction

Argument Group: WikiCS, 512, , 5e-3

Instruction 1: I have a dataset entitled WikiCS that I'm eager to utilize for training purposes. Specifically, I'm aiming to employ this dataset to train a cutting-edge BGRL Model. To achieve optimal performance, I intend to utilize graph encoder layer 512, alongside a learning rate (Ir) of 0.005. Could you kindly assist me in crafting the necessary code to accomplish this task?"

Instruction M: I have an exquisite dataset called WikiCS that I want

Ground Truth Code Construction

```
python main.py \
--dataset wiki_cs \
--graph_encoder_layer 512 \
--drop_edge_p 0.3 \
--feat_mask_p 0.25 \
--Ir 5e-3
```