

How to build NetVec:

1. Build Galois:

SRC\_DIR=`pwd` # Or top-level Galois source dir

BUILD\_DIR=<path-to-your-build-dir>

mkdir -p \$BUILD\_DIR

cmake -S \$SRC\_DIR -B \$BUILD\_DIR -DCMAKE\_BUILD\_TYPE=Release

2. Dependencies

- a. A modern C++ compiler compliant with the C++-17 standard (gcc >= 7, Intel >= 19.0.1, clang >= 7.0)
- b. CMake (>= 3.13)
- c. Boost library (>= 1.58.0, we recommend building/installing the full library)
- d. libllvm (>= 7.0 with RTTI support)
- e. libfmt (>= 4.0)

After this step:

Your executable file is in Galois/build/lonestar/netvec

In order to run the code you have to build netvec using

Make -j

For node classification task run:

```
./netvec true ../../../../data/cora_hgraph.txt ../../../../data/cora_feat.txt ../../../../data/embeddings.tsv  
2 1
```

And evaluate in the test folder using:

```
python run.py ../Galois/build/lonestar/netvec/embedding.txt
```

For link prediction task run:

```
./netvec false ../../../../data/hyperedgePrediction/trainpos.txt  
../../../../data/hyperedgePrediction/embeddings.tsv  
../../../../data/hyperedgePrediction/embeddings.tsv 2 2
```

And evaluate it using:

```
python linkprediction.py ../../Galois/build/lonestar/netvec/embedding.txt
```

This is the results of dataset cora for node classification and gps for hyperedge prediction. All the datasets are public and you can download them.

The format of the input is:

#hyperedges #nodes

node1 node2 ... //node id that are in hyperedge 1

node1 node2 ... //node id that are in hyperedge 2

There should be #hyperedges+1 rows in the input file.