GNNs for LUXE particle tracking

Status update
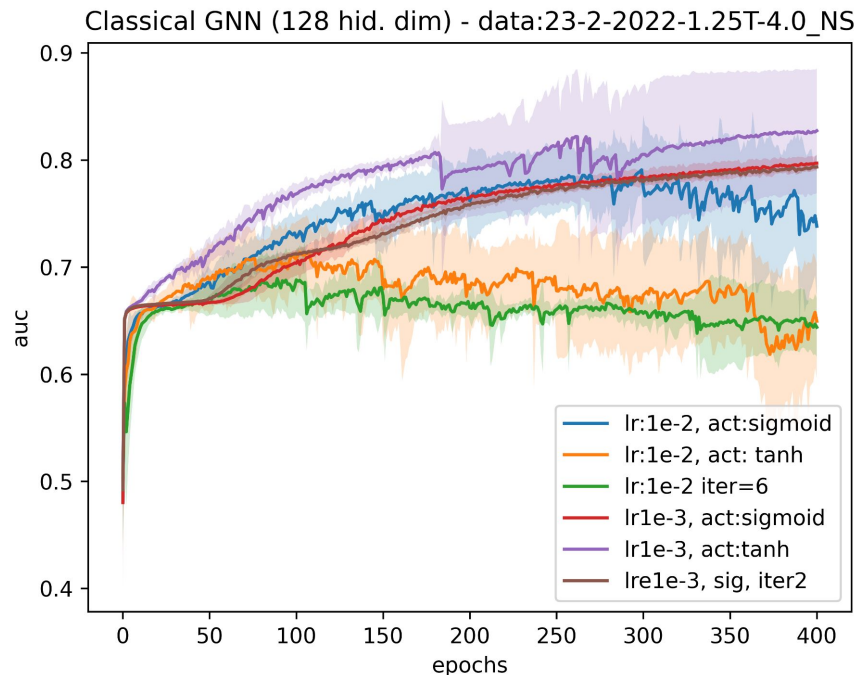
Cenk Tüysüz
22 April 2022

Training results

Playing with parameters of the model to improve performance

I played with some parameters and compared their results.

Best version:

- LR = 1e-3 (we can tune this better later)
- Tanh activation function
- N_iteration=3

Then, I did another test to see how N_iteration plays a role on this model.

Classical GNN (128 hid. dim) - data:23-2-2022-1.25T-4.0_NS

Legend:
- lr:1e-2, act:sigmoid
- lr:1e-2, act: tanh
- lr:1e-2 iter=6
- lr1e-3, act:sigmoid
- lr1e-3, act:tanh
- lre1e-3, sig, iter2

Training results

Here we compare different N_iteration values.

Surprisingly N_iteration=1 performs the best.

But, I think we should do the same test to see if these results generalizes.

Because at the moment we only have 1 graph in the test set.

→ CPU training is very slow, I am also considering switching to GPUs for classical GNN training.

Classical GNN (128 hid. dim) - data:23-2-2022-1.25T-4.0_NS