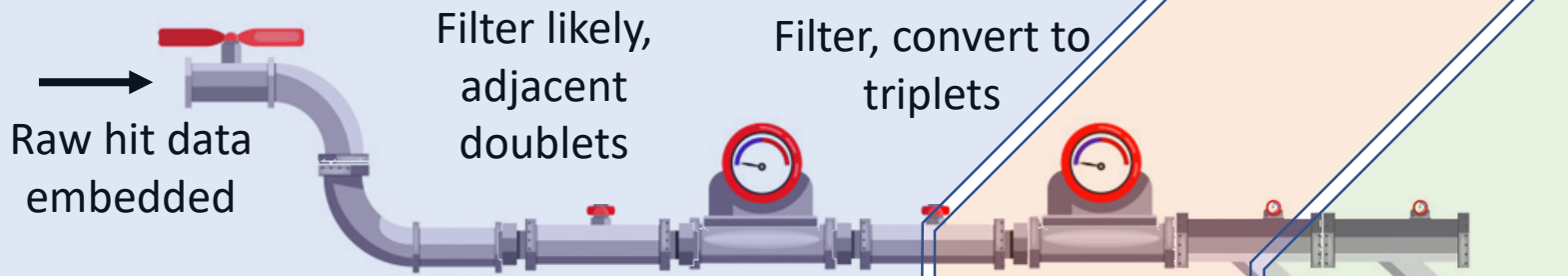
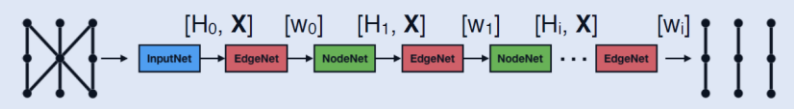


GNNs for Track Finding

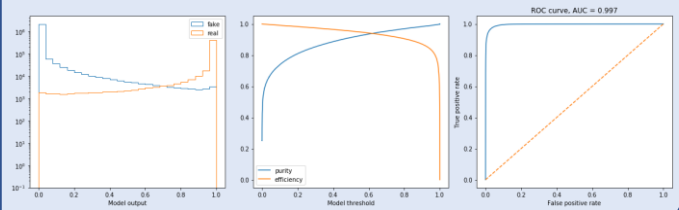


Train/classify doublets in GNN

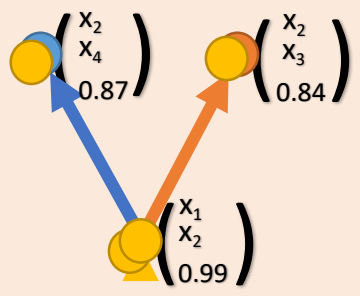
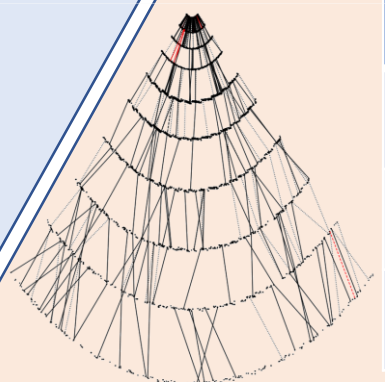
Train/classify triplets in GNN



Architecture: Attention Message Passing with Residuals



Threshold	0.5
Accuracy	0.9761
Purity	0.9133
Efficiency	0.9542

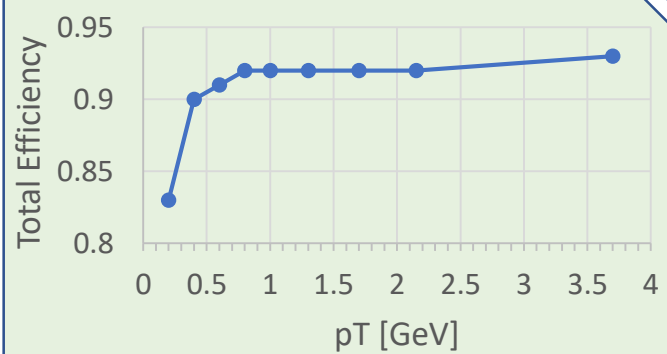


Threshold	0.8
Accuracy	0.9957
Purity	0.9923
Efficiency	0.9850

Apply cut for seeds

- Purity: $99.1\% \pm 0.07\%$
- Inference time: ~ 5 seconds per event per GPU, split between:

Seed Efficiency (PU=200)



DBSCAN on triplet GNN at least 5 adjacent hits

TrackML score = 0.932

