



Figure 1: A) Construction of directional and unidirectional graphs, including graph augmentation to introduce noise and sample from underrepresented label groups; B) Directional graphs are processed through the model architecture (note: DirGNN exclusively supports directional graphs); C) Unidirectional graphs are divided into two sets: one from positive connectomes and one from negative connectomes. These sets are processed through the same model architecture, with the model outputs concatenated together (note: GCN exclusively supports unidirectional graphs); D) Post-processing of the model outputs after passing through the architecture.