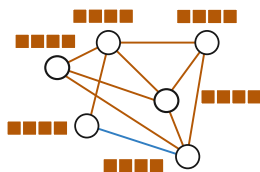
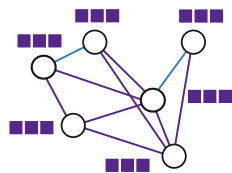


mRNA & Protein Encoder

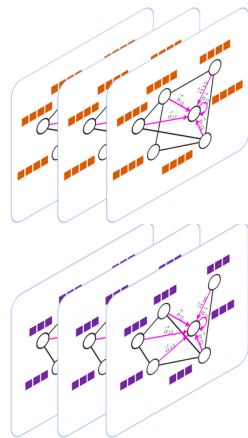
spatial mRNA graph



spatial protein graph

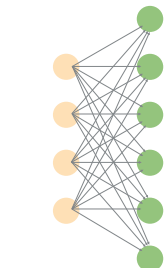


Spatially informed protein
and mRNA graph

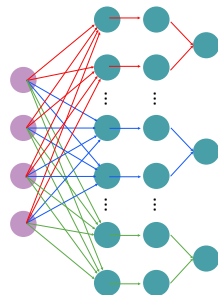


Aligned Latent
Representation

mRNA & Protein decoder



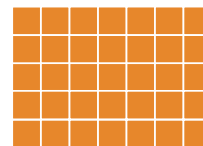
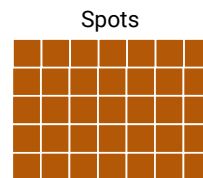
mRNA Decoder



Multi-Branch
Protein Decoder

Gene_{recon}

Gene_{predict}



Spots



Protein_{predict}

Protein_{recon}

Cross-
Prediction