Potential graph structure - assume market concentration in small number of investors. Investors fully connected to underlying assets because they all can see price actions and make trades in all underlyings. Should assets be connected to each other or should the correlations be forced to be propagated through agents. Should agents be able to interact with each other? How to introduce external price shocks? Weighted edges?

Question of typical buy/sell for each investor/asset edge? Distribution at each investor node of typical actions to take? Distribution of other things I can't think of?

Combine GNN with LSTM for more insights?

Exchanges are mostly connected but not all connected with one another, see NBER paper that majority of volume is b/w exchanges. Different crypto assets and agents have different connections? Or at leaset all agents connected to all exchanges?
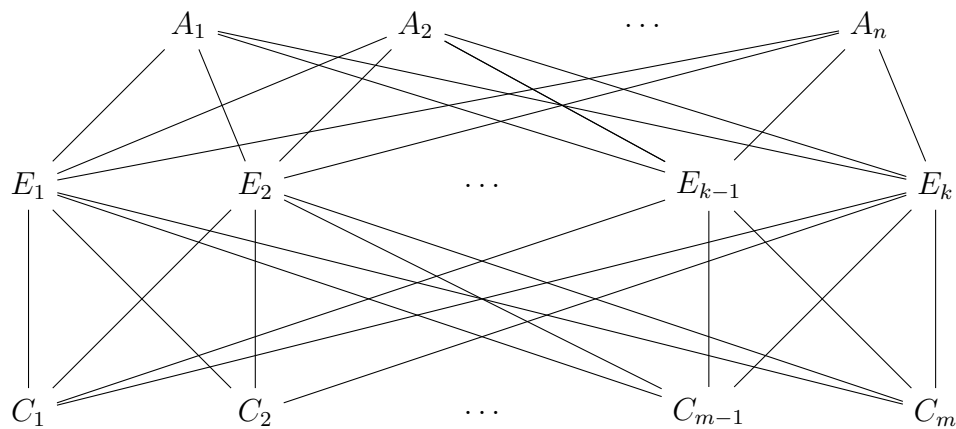
Schedule:

1. Nov 22 - Nov 29:

   - Find papers for 1) design of LSTM architecture 2) Technical indicators 3) Graph structure of data and best representation 4) design of GNN architecture
   - Clean data as reasonable, organize as time-series feed of minute-by-minute states of the market
   - Build data loading/preprocessing portion of training pipeline - can implement auto-encoder to condense features matrix into a vector embedding for LSTM?
   - Implement LSTM model

2. Nov 29 - Dec 6:

   - Start training LSTM model
   - Implement graph model
   - Train graph model/LSTM+GNN model as end-to-end
   - Start write up of background

3. Dec 6 - Dec 13:

   - Continued experiments
   - Continue write up

4. Dec 13 - Dec 20:

   - Last experiments (hopefully none)
   - Finish write up