

Experimenting with bitcoin transaction data

1. Creating a graph from Bitcoin transaction data

Use the Bitcoin dataset provided on the webpage of the class. You can check the example notebook to see how to load it into a pandas dataframe.

- (a) Using pandas, split the data in two periods of 8 hours, so that, for each day, you keep all transactions between 9a.m. and 5p.m.
- (b) For each period, keep only users with at least 2 transactions over the period.
- (c) Create an aggregated graph, i.e., there is an edge from user a to user b if there is at least one transaction from a to b, and the weight of the edge is the sum of the transaction.
- (d) If you think that the graph is still too large, filter out the less important nodes/edges, using the same rule for both periods.
- (e) Using what you have learned, analyze the 2 networks corresponding to the 2 periods, and compare them.
- (f) Upload on the discord a network drawing of one of the periods (at least).