CIS 700 HW 3
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1. The plots we generated for our own cluster and gold cluster are quite different, like the indegrees and outdegrees for each cluster (node). Since the algorithm implemented after clustering is the same, the reason behind that is different clustering methods. After having a deeper look at our own clustering result, we find out our clustering approach misclassified two same behaviors given two different action doers. There are also quite a lot of similarities. For example, the number of nodes are quite the same. And some nodes like “wait in line”, “sit down” have similar indegrees.

2. Gold-labeled clusters plot graph and the one in the paper can both greatly generate the relationship between different clusters. However, our graph is more complete and considers more relationships. For example, when we drive home, we can also eat food bought from the drive-through. That is the relationship our graph has, while the one in the paper does not. In addition, the one in the paper has fewer edges and does not have loops, while our graph has more edges and has loops.

3. We think we should have many plot graphs corresponding to different scenarios, environments, etc. to make the whole story complete. Plotting everything in a single graph would be a disaster because sometimes the algorithm would accidentally build relationships between unrelated clusters in different environments.

4. Based on our results, it is feasible to generate a bunch of these plot graphs. The plot graphs we generated satisfy basic logic of going to the restaurant and look okay. However, in our case, the number of stories is limited. To generate better and more plausible plot graphs, we need a very large dataset of stories and we need a very good clustering algorithm to cluster the sentences. In addition, we need a better tool to display the generated plot graphs, since our plot graphs are a little messy because of all the edges.

5. Beyond story and interactive fiction generation, this technology can also be used in databases or commercial situations. In relational databases, there are relational graphs that represent the relationships between the entities in the database. These graphs are similar to the plot graphs and thus can be generated by this technology. In addition, in the business field, this technology can be used to generate plot graphs that represent

use cases of the products or services. For example, in the restaurant industry, we can use this technology to see what services customers may need and design the corresponding products or services next.

Extra Credit

We used GTP-3 to generate 16 short stories about John and Sally eating at a fast food restaurant and put it into a text file. Then we downloaded the file and clustered the sentences, and performed the same step as in part 1.

Comparing the GPT plot graph and the original story plot graph, we can see that the GPT graph only has 6 nodes, while the original graph has 21 nodes. This is because sentences in GPT stories are less formatted and more variable than the original stories and thus a lot of sentences cannot be clustered well. In addition, there are fewer edges in the GPT graph than the original graph. This is because GPT stories contain less number of actions than the original stories.

Since the GPT graph has fewer nodes and fewer edges, it is easier to read visibly. However, based on the limited number of clusters, the GPT graph cannot represent better stories. In the original stories, there are more actions related to the topic, like paying for the food, waiting in line, waiting for food, and getting table. None of these actions are mentioned in the GTP stories, maybe because of the way we generated them. The original plot graphs can generate better story because they have more logical and plausible actions about the topic.