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Graph-Embedding Summary Report

Process of the project study:

We received the project subject “Graph-Embedding” with a link to a GitHub Repository related to it. There were four scripts in the repository and all of them didn’t work. Two which were beyond saving. Two of them needed updates to the deprecated packages and commands.

There were some challenges understanding the code as there was little documentation. Some of it were in Chinese.  
  
After we were able to compile two of the latter scripts. We began to research the project by reading papers about Graph-Embedding, the motivation and the known algorithms, especially DeepWalk and Node2Vec.  
We updated the libraries and commands.   
We made Google Colab load the data from GitHub and compile the model in the cloud.  
Then we analyzed the dataset, the subject and the code.   
We summarized the script process and printed the obtained results.

Project flow:

We met once a week to make progress on the presentation.   
During the week, we discussed the subject, the presentation and the general schema.  
We met with the lecturer to discuss the direction of the project.

Obtained results:

60-70% accuracy in F1 score. Around 90% in AUC scores.

Conclusion:

The results are not very accurate. Slightly better results with the improvement of node2vec to deepwalk to go for wider exploration in the algorithm.

External links:

[Github Repository](https://github.com/shachar700/Graph-Embedding/)

[Google Colab script](https://colab.research.google.com/drive/11eVIbhSCO4OnrZEPRfTYLs7bEZRxLuLQ?usp=sharing)