

Weekly Report 1 - October 29th, 2023

Ashley Chen

For this week, we answered the questions we had from reading the paper with the meeting with the Ph.D. students, talked about some ideas we had for improving the project (GPT, vector database, etc.), talked about what context free grammar is, and generating mock data for the project. For the coming week, we plan on generating mock data to parse into the algorithm and trying to run the program that comes with the project (if it decides to work).

Malachi Daniel

I joined our weekly meeting and helped clear up the logisitocs of our project. Originally, we planned on figuring out how to gain access to the network database, but we realized that the data is not the most important part to recreate. Instead, we decided to focus on the NLP aspect of the project and next week decided to generate mock network data and work on parsing English sentences into database queries.

Minjae Lee

I learned about on the general concept of ingress and egress. We discussed about the direction of the project, where we had two ideas on improving the project. One idea was to set more grammar rules in the process of translating between SQL and a natural language. Another idea was to use a GPT program to improve the translation process. Next week, we plan on generating mock network database and parse English queries to database queries.

Yan Konichshev

This week has helped me personally to lay a foundation of why this research is important. I have brainstormed and thought of the ways this project can be improved. I have also learned about the context free grammar and how it can be used to parse English sentences into database queries. Additionally, I have explained to my fellow peers why CFGs are important and how are they applicable to our project. Apart from CFGs, I have came up with an idea of improving the quality of the network summaries by using databases. One apparent downside to this approach is that most of the modern vector databases are rather static and do not change over time. This means that the quality of the summaries will be limited to the quality and quantity of the data in the database. Next week, I will keep working on understanding better the core principles and starting to re-implement

them (the ComPass algorithm, and the optimization algorithms and techniques used in the paper). I have been responsible for essentially managing the team and making sure that everyone is on the same page. I have also been responsible for writing the weekly report. Finally, I set up the repository for the project and briefed the team on some basic contributing conventions.

This concludes the weekly report for the week of October 29th, 2023.