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20/07/2018

Final Report

I know first few sentences of this document is irrelevant to the expected content of the final assignment. However, I want to take this chance to thank Mr.Root and Rhea for the invaluable knowledge and experience you have taught me only within a month. Though Info 340, I was able to learn how database is constructed and applied in real life with a wealthy amount of practical coding experience, which helped me to better understand and absorb basic database knowledge.

I wanted to be a data scientist since I was in high school. As a mathematics major and statistics minor student, I was able to learn number of data optimization and analyzation skills which allowed me to foster in understanding different data and analyzing it. However, I felt incomplete because I lack in understanding of database, which is core knowledge and first step to any data related work. However, by the end of this quarter, I was able to understand the flow of data analysis which starts with creation of database which is not limited to creating tables but also careful database design which include metadata and ERD, creating stored procedures and views to securely store the data, and assigning permissions to different tables to securely store the data and restrict the access to the data from public.

Furthermore, I was impressed by the fact that the most important and creativity require part of creating database comes from database design. In real life, as Mr.Root said, there are more than hundred tables in one database with complex relationship, defining the relationship requires creativity and critical thinking , to preserve integrity and improve efficiency of the database.

Amongst the number of impressive knowledges that I have learned during this course, my favorite was application of database. In order to use the data in database in data analysis, one should know how to import data into sql database and export data from sql database. By the end of the course, we have learned how to extract data from database using both Python and C#. As I have learned such skills, I was able to start thinking about automatizing the data analysis process which includes extracting the data from SQL Server followed by data analyzing with Python using machine learning then importing the new knowledge and insight about the data back into the database.

The last but not the least, data reporting skills including Power BI and Excel provided multiple options to communicate the data analysis result with others in more effective way. I truly appreciated how easy the reporting with awesome visualization could be with a help of Power BI and Excel.

The skills and knowledge including database design, database construction, permission assignment and reporting data that I have acquired during Info 340 class is exceptionally crucial components to my future career. The experience in Info 340 accelerated my vision towards data analysis.