<u>Capstone Project</u>: **From Unstructured Text to Knowledge Graphs using NLP Tools and Google Knowledge Graph APIs**

Description:

In this project, you are expected to develop an end-to-end solution for building a knowledge graph from unstructured text using NLP tools and interfacing with the knowledge graph using Google's Knowledge Graph APIs. Some of the key NLP tasks that might be of use include but are not limited to:

1. **Named Entity Recognition**
2. **Entity Relationship Extraction**

Unstructured text is one of the most dominant data sources in business, yet meaningful understanding, searching and querying information hidden in such text is a challenge. On promising strategy is to extract the structure from the unstructured text. Such a structure can be modeled by Knowledge Graphs. Example Knowledge Graphs are the ones proposed by the Semantic Web community. Also, Google developed some target areas for knowledge modeling as a graph and provided search APIs.

You are advised to focus your text repository to one of the main categories in Google Knowledge Graph Search APIs: https://developers.google.com/knowledge-graph/ such as:

- Movies
- LocalBusiness
- Music
- Sport
- Person
- etc.

Submission Requirements:
- Power point presentation and corresponding slides for your solution
- Relevant papers used for specific tasks of your solution
- Source codes (Python and/or Python Jupyter Notebooks)
- Data sets and/or links where to download the data sets from
- Report with the results on the relevant performance metrics and the types of queries supported over the Knowledge Graph using Google APIs

Useful Resources:
- See 2 presentation on Named Entity Extraction and Entity Relationship Extraction for the Natural Language Processing