(All Open to Change)

Title: Automated Financial Modelling for Mobile and Web Apps, Gabriel Stengel, Advisor: Jaswinder Singh

Goal: The goal of the project is to create a cloud-based financial modelling tool that automatically tracks linked metrics within the models (think tickers / data from Google finance and so on) and updates the models. Then, we'd like to provide an API for serving the data in interactive graphical form, as well as a range of NLP Question-Answering methods for querying the data.

Related Work: The Automated Statistician is a similar project that has produced a number of academic papers that I will use. The project attempts to automate the process of discovering statistical insights within an unseen dataset. However, it is not as specific as the project I am attempting -- nothing has been done in the specific domain I am targeting.

Approach and Plan: In broad strokes, the project will proceed in three parts. First, I am going to build out a python library for interacting with excel spreadsheets, so that I can link specific metrics to update continuously. Second, I will set up a cloud server for storing and updating and serving datasets in excel. Third, I will train a question-answering NLP model using the Stanford question corpus using financial and economic domain knowledge. As the project progresses, I will update this proposal document with more and more fleshed out plans – both to keep track of progress on the project and to iteratively scout out work to be done.

Evaluation: In order to evaluate how successful the project is, I will measure each of the three main components individually before evaluating them all in tandem. I will test the features on unseen datasets to see how effectively they work.