Long- and short-term goals for the Homework and Next Milestone (CurrentDate = 2/16/2021)

Due dates:

1. Homework 1: February 27th
2. Milestone 2: March 5th
3. Notebook 6: Recurrent Architecture Feb 26th . (Important as used in our milestone 2 and overall project)

Homework 1 Plan

1) Latex document for Homework 1:
   https://www.overleaf.com/read/vcsjjdhcmztx
   Let's plan on distributing the workload. Latex is causing massive problem now since we don't have collaborative plan, so we can't work on the document together.
   We might also need to plan more meetings during the week, to include and discuss methodologies and findings for homework 1.

Milestone 2 Plan (We need to decide on deadlines for each objective, Izzat will make the excel sheet to make it easily tracked)

Implementation plan:

1) "Read building Complex models using the Functional API" Page 308 in Textbook. Important as this will be used a lot in our approach.
2) "Read Chapter 6 Processing Sequences Using RNNs and CNNs" Page 497 in Textbook. Important as this will be used a lot in our approach.

3) Read and understand the Malaysian paper. (Easy to implement)

Ignore the next point

4) Figure out how to display the transformation of vectors to explain the transformation of the final weights of the model before making a prediction. (If possible, ignore if impossible)

The foundation:

5) Read https://courses.lumenlearning.com/boundless-economics/chapter/long-run-growth/ and https://www.investopedia.com/ask/answers/111314/what-causes-inflation-and-does-anyone-gain-it.asp to get a background on the factors that affect real GDP and inflation. Reading these websites and the Malaysian paper is especially important as we will begin to model the approach for milestone 2 and the factors on the website and research papers will be used as parameters in our model as the explanatory variables for the model. The first website is explaining long run growth and the second is inflation. Since real GDP is made up of nominal GDP and inflation, we are hoping that the model understands the combination that causes real GDP compared to just raising the price of the items.
6) Dr. Scott agreed to allow help from professors from different fields. As explained in the email, Dr. Mann has agreed to provide consultation us on our project, so Izzat will keep in contact with him about the objectives and updates for the project and cc the emails with other team members.

7) Dr. Scott also stated that we must be careful with our modelling of the problem for milestone 2, as the small details can cause massive computational problems. I will explain more about this in the meeting, but it is related to how:
   Time series Analysis: Using past 5 years data to predict the next quarter or year GDP.
   vs
   Window sliding method: Using 1955 – 1965 to predict 1966 and then moving the window to 1956 – 1966 to predict 1967, hence, a window sliding through each time range.
   Might be the difference between a feasible model or an infeasible model due to the explosion in training values produced. The window sliding method might also have a problem since it does not consider the correlation between years.
8) Looking at multi anova table to explain the findings for a combination of factors.

Important Quick Discussions:

A. Competition 2 has begun for the second cifar10 data set. Anyone want to volunteer for it? Just remember to compile the data that you get. (Get on this by Thursday 18th February)

Conclusion for the meeting:

What are the goals to be accomplished by next meeting?

Overall idea:

Read the green highlighted points.

What are the special responsibilities for each team member?

Izzat:

Homework:

Do Approaches, Most the experimental setup, cross validation is done by everyone. Experimental results will be updated and displayed using a table. Discussion and conclusion, we finish it in a meeting.

Milestone:

- "Read building Complex models using the Functional API" Page 308 in Textbook. Important as this will be used a lot in our approach.
- "Read Chapter 6 Processing Sequences Using RNNs and CNNs" Page 497 in Textbook. Important as this will be used a lot in our approach.
- Read https://courses.lumenlearning.com/boundless-economics/chapter/long-run-growth/ and https://www.investopedia.com/ask/answers/111314/what-causes-inflation-and-does-anyone-gain-it.asp to get a background on the factors that affect real GDP and inflation. Reading these websites and the Malaysian paper is especially important as we will begin to model the approach for milestone 2 and the factors on the website and research papers will be used as parameters in our model as the explanatory variables for the model. The first website is explaining long run growth and the second is inflation. Since real GDP is made up of nominal GDP and inflation, we are hoping that the model understands the combination that causes real GDP compared to just raising the price of the items.

Ryan:

Homework:

Do introduction and Problem description. cross validation is done by everyone. Discussion and conclusion, we finish it in a meeting. Discussion and conclusion, we finish it in a meeting.

Milestone:

- "Read building Complex models using the Functional API" Page 308 in Textbook. Important as this will be used a lot in our approach.
- "Read Chapter 6 Processing Sequences Using RNNs and CNNs" Page 497 in Textbook. Important as this will be used a lot in our approach.
- Read https://courses.lumenlearning.com/boundless-economics/chapter/long-run-growth/ and https://www.investopedia.com/ask/answers/111314/what-causes-inflation-and-does-anyone-gain-it.asp to get a background on the factors that affect real GDP and inflation. Reading these websites and the Malaysian paper is especially important as we will begin to model the approach for milestone 2 and the factors on the website and research papers will be used as parameters in our model as the explanatory variables for the model. The first website is explaining long run growth and the second is inflation. Since real GDP is made up of nominal GDP and inflation, we are hoping that the model understands the combination that causes real GDP compared to just raising the price of the items.

Max:

Homework:

Most the experimental setup, cross validation is done by everyone. Discussion and conclusion, we finish it in a meeting. Discussion and conclusion, we finish it in a meeting.

Milestone:

- "Read building Complex models using the Functional API" Page 308 in Textbook. Important as this will be used a lot in our approach.
- "Read Chapter 6 Processing Sequences Using RNNs and CNNs" Page 497 in Textbook. Important as this will be used a lot in our approach.
- Read https://courses.lumenlearning.com/boundless-economics/chapter/long-run-growth/ and https://www.investopedia.com/ask/answers/111314/what-causes-inflation-and-does-anyone-gain-it.asp to get a background on the factors that affect real GDP and inflation. Reading these websites and the Malaysian paper is especially important as we will begin to model the approach for milestone 2 and the factors on the website and research papers will be used as parameters in our model as the explanatory variables for the model. The first website is explaining long run growth and the second is inflation. Since real GDP is made up of nominal GDP and inflation, we are hoping

that the model understands the combination that causes real GDP compared to just raising the price of the items.