
EE / CPR E / SE 491 - Biweekly Report 06

04/02/2020 – 04/16/2020

Group number: sdmay20-41
Project title: Machine Learning for Understanding Aging
Client &/Advisor: Dr. Julie Dickerson
Team Members/Role:

- Ian Simon / Chief Engineer
- Jacob Laing / Chief Engineer
- Nathan Carter / Test Engineer
- Samantha Williams / Meeting Scribe
- Scott Rose / Meeting Facilitator
- Aria Sheets / Report Manager

Biweekly Summary:

- The past two weeks consisted of small changes made to bring the product closer to its final state. The machine learning module was run with testing data to see if the results were as expected. The GUI was created to make the product more user friendly for users with less familiarity with the command line. The meta data was completed to show a report to the user with information regarding the program run and the final reduced data that was used to run the machine learning module. The plotly graph was altered to be saved to a file so the user could revisit it, rather than just opened to a browser window.

Past Two Weeks Accomplishments:

- Ian Simon: Starting the documentation for how to use our program. I will include a step by step from beginning to end for formatting the data and using the system along with a description of what is happening behind the scenes.
- Jacob Laing: Worked on finishing up the GUI so that it is easier for users to run our program.
- Nathan Carter: Worked on finishing the Tensorflow component. This included evaluating our machine learning algorithm on our testing data and re-writing the component to be more modular. The Tensorflow component was broken into 4 modular functions from one large one. This includes creating the functions machineLearning, getDataAndLabels, splitTrainingData, machineLInput.
- Samantha Williams: Worked on finalizing the status of the meta data. Printed the date and time of the run for user needs rather than the time from epoch. Printed the reduced data to a file for user reference instead of including it in the output.txt file. This reduced the clutter and improved readability of the file. Helped answer the questions asked by teams regarding our product video.
- Scott Rose: For our integration testing, we used a dataset called MIDUS 2. There are two similar datasets called MIDUS 3 and MIJAS. Tested our project using these two

different datasets to see if we would get similar results. This involved creating two new lists of column parameters since the column parameters are different in the datasets.

- Aria Sheets: Worked on finishing up the project. Made more comments on the pull requests for the TensorFlow component and meta data. Worked on making the Plotly graph be saved so that the user can view it at a later time if so pleased. Helped answer questions for our peer evaluated video.

Pending Issues:

- Ian Simon: Working on documentation
- Jacob Laing: Working on the GUI and finishing up parts of it/changing parts that aren't as clear to the average user.
- Nathan Carter: No pending issues this week
- Samantha Williams: N/A.
- Scott Rose: Write up the results from the two tests runs using the other datasets..
- Aria Sheets: N/A.

Individual Contributions:

<u>Name</u>	<u>Individual Contributions</u>	<u>Past Two Weeks Hours</u>	<u>Hours Cumulative</u>
Ian Simon	Documentation for how to use the system	12	63
Jacob Laing	Worked on GUI implementation	14	70
Nathan Carter	Finished the Tensorflow component. This includes creating functions getDataAndLabels, splitTrainingData, machineLInput.	13	67
Samantha Williams	Finalized the meta data component for user output and answered team questions	12	64
Scott Rose	Configured the program to be able to run with two different datasets that we have not used before.	10	67
Aria Sheets	Finishing up the project. Made more comments on the active pull requests. Making the Plotly graph be saved. Helped answer questions for our peer evaluated video.	13	69

Comments and Extended Discussion:

- Because we're finishing up the project, some of us don't have any pending issues. We will be wrapping up and creating our final poster/report/presentation.

Plans for the Upcoming Two Weeks:

- Ian Simon: Works on documentation for how to use our program.
- Jacob Laing: Works on implementation of GUI and completes the implementation so that we are ready to present it.
- Nathan Carter: Works on finishing up the final components of our project. This will include whatever might need extra development time. I will also be working on the final report/presentation/documentation.
- Samantha Williams: Works on finalizing the product before our final presentation and work on the presentation materials and final report.
- Scott Rose: Write up the results of running the project with the two other datasets that we hadn't used before.
- Aria Sheets: Works on finishing up reviewing the last code reviews, then finishing the project poster/report/presentation.