***EE/CprE/SE 492 BI-WEEKLY REPORT 5***

***Start Date – End Date : 11/09/21-22/2/21***

***Group number: 09***

***Project title: Magic Sensors***

***Client &/Advisor: Daji Qiao***

***Team Members/Role:***

* Ryan Lanciloti-Report Manager
* Ben Pierre-Webmaster
* Abdelaziz Hassan-Power Systems
* Chinar Kaul-Meeting Facilitator
* Alyssa Marshall-Meeting Scribe and Team Manager
* Jared Hermon-Test Engineer

o **Weekly Summary**

The group gave a presentation to our client, the demonstration showcased the entire system working, from the sensor to the forwarder to the server, through the machine learning algorithm and out to the users GUI. This demo was regarded as a failure as the team was not able to achieve any accurate results from the demo. The team has been working on implementing several different approaches to improve upon the accuracy of the system.

o **Past week accomplishments**

∙ Ben Pierre: Built a variety of datasets, built front end GUI for prior presentation, see it here : http://sddec21-18-ml.ece.iastate.edu:20001/DashBoard.html

∙ Alyssa Marshall: Finished testing template with test engineer. Showcased documents to the team for final approval. Began work on the final poster and final presentation verifying layout and content of both documents meet all requirements.

∙ Chinar Kaul: Worked on integrating a new training set with a model. Modified epochs, batches, activation functions, nodes, etc to try and debug model.

∙ Ryan Lanciloti: Developed plan for new algorithm to improve accuracy, integrated model with back end, developed plan to improve throughput on server.

∙ Jared Hermon: The test team finished the testing template and got final approval from the team. Began working on the final poster and presentation.

. Abdelaziz Hassan: Worked on poster document, PRIM presentation and prepared for final presentation.

**Pending issues** ∙ Ben Pierre: Awaiting a few endpoints to continue front end dev.

∙ Jared Hermon: No pending issues at the moment.

∙ Ryan Lanciloti: Struggling to determine the best way of implementing the new algorithm.

∙ Alyssa Marshall: No pending issues at this time.

∙ Chinar Kaul: Issues with model outputting NaN when training from the longer (new) dataset. No issues with the old training set, so this may be caused by the length of the new set (9k rows) or corrupted data.

. Abdelaziz Hassan: No pending issues this week

o **Individual contributions**

| **NAME** | **Individual Contributions** | **Weekly** | **Cumulative** |
| --- | --- | --- | --- |
| Ben Pierre | Built front end. Datasets. Heavy debugging. | 10 | 52 |
| Jared Hermon | Final Poster, Presentation and test documents | 6 | 36 |
| Alyssa Marshall | Final Poster, Presentation, Document | 6 | 36 |
| Abdelaziz Hassan | Poster document | 6 | 35 |
| Chinar Kaul | Integrating new training data. | 6 | 36 |
| Ryan Lanciloti | Integrated model to back end, developed plans for improvement of process. | 10 | 44 |

o **Plans for the upcoming week**

∙ Ben Pierre: Assist in endpoint integration, continue building out the front end.

∙ Jared Hermon: Work on the final poster and presentation, will help the team where b needed.

∙ Chinar Kaul: Understand and fix why NaN output displays for new longer training dataset. Otherwise, will need to go back to using the old shorter dataset and find new approaches to fix model accuracy.

∙ Alyssa Marshall: Will continue to work on final documents including poster, document, and industry presentation. Will fill in necessary content and updates of project work.

. Abdelaziz Hassan: Planning to work with testing team and be ready for final presentation

. Ryan Lanciloti: Changing threading to forking to improve overall performance of the model and server.

o **Summary of weekly advisor meeting**

The client (who is also the advisor) was busy during this period and as such the team did not meet with them. We have been updating him via email.