

EE/CprE/SE 491 Biweekly Report 6

Nov 9 - Nov 22

Group Number: Sddec22-14

Project Title: Machine Learning for Human Biometrics

Client: JR Spidell (Collins Aerospace)

Advisor: Akhilesh Tyagi

Team Members/Role:

- Ron Mei Hang Teoh - Database Manager
- Yee Shen Teoh - Hardware Manager
- Zi-Jan Wong - ML Manager
- Nathanael Morris - ML Manager
- Ritvik Maripally - Security Manager

Weekly Summary

- Tagged up with client to start wrapping up our project, and archive our documentations to be passed to future teams.
- Integrate the different components together.

Past week accomplishments

Ron - In the process of setting up the client side of the database

- Found the binary found for the database server
- Tried to compile the source code of the database server, in order to run it on the Ultra96 board

Yee Shen - The algorithm are now in the board, but there is an issue with downloading one of the library. I am currently working with client to solve that issue. I am also going to work on displaying a video out of the memory storage using openCV and python. I had also meet with Jan to work on his algorithm in Ultra96.

Jan - Creating slide decks for error calculation explanation, experimenting with ways to save tensorflow model as tensorflow lite, quantize to 8-bit integer, and load the model.

Nathanael - In the past week I have found a way to stream the output of the eye movement algorithm into ReMoDNaV to get the eye movement predictions. I am currently working on a way to use the movement classification output data to have a final outcome on whether a user is undergoing stress or fatigue.

Pending issues

- N/A

Individual contributions

NAME	Individual Contributions	Hours this week	HOURS cumulative
Ron Mei Hang Teoh	<ul style="list-style-type: none">- Setting up client database- Finding open-source source code to be compiled on the Ultra96 board.	12	72
Yee Shen Teoh	<ul style="list-style-type: none">- meet with Jan on algorithm in Ultra96.- Working with client to solve issues with one of the library	12	72
Zi-Jan Wong	<ul style="list-style-type: none">- Slide deck for error calculation- Convert tensorflow model to tensorflow lite model	12	72
Nathanael Morris	<ul style="list-style-type: none">- Stream data from eye movement classification to remodnav- Working on using classification data to make final output	12	72
Ritvik Maripally	-		

Comments and extended discussion

- N/A

Plans for the upcoming week

- Try to run the compiled code on the Ultra96 board

Jan - Finish slide deck, integrating tensorflow lite model to the Ultra96.

Nathanael - Complete the final prediction and work on the presentation slides and poster board.

Yee Shen - Meeting with Ron and Jan again to integrate the algorithm on the board. Also meet with the team to get prepared for the presentation.

Summary of weekly advisor meeting

Our advisor advised us to start preparing for the final presentation, and to wrap up our project.