

## EE/CprE/SE 491 WEEKLY REPORT 02

2/7/22 – 2/13/22

Group number: 14

Project title: Machine Learning for Human Biometrics

Client &/Advisor: JR Spidell & Professor Akhilesh

Team Members/Role:

Ritvik Maripally: Team Leader

Ron Mei Hang Teoh: Database guy

Yee Shen Teoh: Ultra96 hardware guy

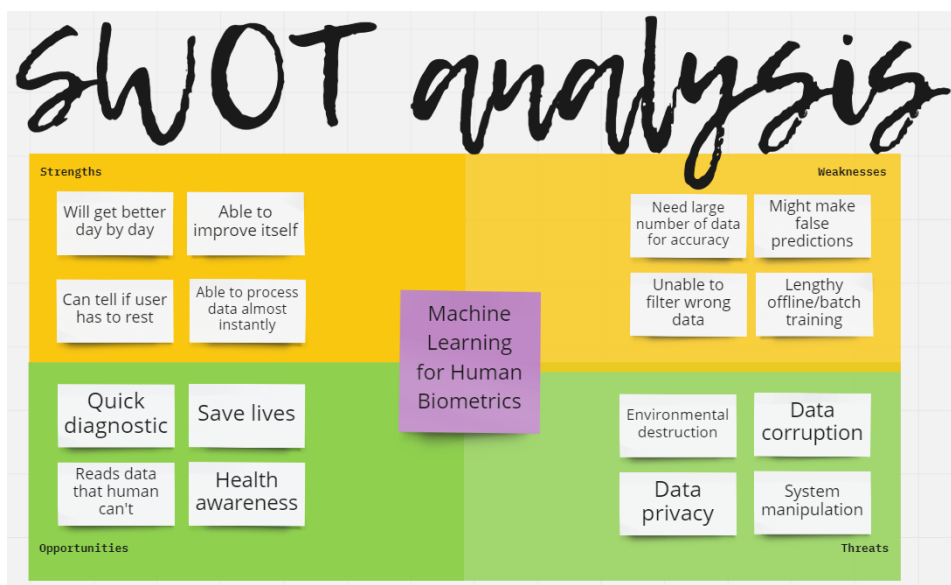
Zi-Jan Wong: Machine Learning guy

Nathanael Morris: Machine Learning guy

### ○ Weekly Summary

- Talked about the specific project that we are going to work on, and we talked about our experiences and expectations for this project. Our client, Mr. JR gave each of us specific tasks to work on. Some of us had to install some software, while others had to research different software and equipment being used today.

### ○ Past week accomplishments



- SWOT analysis done by Ron Mei Hang Teoh, Yee Shen Teoh, Zi-Jan Wong, and Nathanael Morris.
- Meeting with the client, JR, and determining the project's goal and next week's objectives.
- The team will be using an ARM-based, Xilinx Zynq UltraScale+ MPSoc hardware, with a circuit board that will be attached with a dual camera.
- The final goal of this project is to grab the movement of the eyeball and use a machine-learning algorithm to tell if someone is fatigued, stressed, has low oxygen levels, is cognitively impaired, and so on.
- Objectives by next week:
  - Install Anaconda
  - Look for a suitable environment for Ubuntu
  - Research and compare different Databases such as MongoDB, Influx DB, etc.
  - Be familiar with Python to understand machine learning

○ **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Ritvik Maripally	Installed Anaconda, Set up team meetings. Miro board	6	12
Ron Mei Hang Teoh	Install Anaconda, research and compare different databases (MongoDB, InfluxDB, etc.), Team Initiation Assignment, Miro Board	6	12
Yee Shen Teoh	Study about Ultra96-V2, create an element14 account, Miro Board.	6	12
Zi-Jan Wong	Install Anaconda, setup Ubuntu on VM, Team Initiation Assignment, Miro Board, learning Python, 1-1 discussion with JR	6	12
Nathanael Morris	Install Anaconda, setup Ubuntu using Multipass, watched basic ML videos	6	12

○ **Plans for the upcoming week**

- **Ron Mei Hang Teoh:** Discuss with the team and decide on a database to work on

- **Yee Shen Teoh:** Study more regarding the Ultra96-V2 and create a simple study guide for team members so that they can get familiar with Ultra96-V2 easily.
- **Zi-Jan Wong:** Install Anaconda and Ubuntu, be familiar with Python to understand machine learning
- **Nathanael Morris:** Continue learning about machine learning and practice applying it through coding a small project.
- **Ritvik Maripally:** Continue to work on whatever is needed around the project, work on possibly learning about image processing or machine learning.

- **Summary of weekly advisor meeting**

- Did not meet with the advisor as the advisor meeting was done before the first client meeting.

### **Grading criteria**

Each weekly report is worth 10 points. Scores will be awarded as follows:

- **8 – 10:** Progress for your project seems to be suitable. Documentation and hours reported by team members are adequate.
- **6 – 8:** There is scope of improvement both in your report and your project progress. Can consult with instructor/TA after class for further inputs.
- **< 6:** Please talk to instructors/TA after class hours about any difficulties that you/your team are facing.

Each weekly report should be unique in that they have a unique set of supporting details for your contributions. So please do not just copy your reports from the previous week. In addition, please avoid any personal pronouns (he, she, I, you). Try to keep your reports as neat as possible.