Project: Emotional States

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Team members

• Sicong Zhao

• Mikella Green

**What did I accomplish this week?**

We arrange a meeting with Jana where we experienced some issues. Mikella told us that she was not showing enthusiasm for the project because she has other task to do, and also because they do not have a clear idea of what they (Larkin Lab) are expecting to get from this project. Despite of this, I think we solved the situation in a positive way. We decided to set a meeting with Greg and after that a new meeting with Jana.

I finished cleaning the final dataset to do modeling.

I made the pre-processing pipeline for the data (encoding, inputting)

I made a pipeline for train different models.

I researched about methods to deal with Mixed effects in Machine Learning. I discover that there is an available library that can perform Mixed Effect Decision Tress.

**How many times did you get stuck this week in some significant way?**

0

**Was there anything that you set out to accomplish this week but did not?**

I realize when I was trying to model this problem that we did not know any method that could manage repeated measures. So, I spend time researching about that.

I was not able to find good material about Fourier Transformation for HR using Fitbit data. Almost all the literature use devices with higher sampling rate.

**If your project is moving slower than expected**

Yes. We still do not have access to the brain data.

**• How does this slow down affect your overall schedule?**

It’s not so terrible. If we end up having access to this data, we will include this data as a feature to one pre-existent model and test the performance.

**• Are you still on track to finish your project?**

I consider that we are. We started training and testing models. Now we are aware of possible limitations and at least we have the questions to ask.

**What do you plan to accomplish in the following week?**

Generate more features with the current data (Fast Fourier Transformations to the HR, try to generate an equivalent measure to HR variability given the data limitations).

Run three different models. A RF without using Random Effects, a Mixed Effect Random Forest. And compare the output. The model use will end up depending of the question we want to solve. To define this we are meeting with Greg on Tuesday.

**What if any, help or resources do you need from your client, project managers, or MIDS?**

Not for the moment.

Hour card

Trabaje:

2/10/2020

- Review code before meeting 13:30-15

- Meeting 15 - 18

- Cleaning issues about activity data and sleep data when integrating to experience sampling data. 21-23

2/11/2020

- Answer Capstone survey 10 - 11

- Meeting with Jana 13-14:30

2/12/2020

- Started joining all the tables into a dataset to train the models

10-12 / 15-16

2/13/2020

- Cleaning, inputting, scaling, encoding final dataset. Running a simple linear regression predicting emotional valence (regression problem instead of classification). 10-12 / 1:30-2:30

- Reading about inputting, cross validation and Mixed Effects

21-23:30

TOTAL 17.5 hours