Project: Emotional States

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Team members

• Sicong Zhao

• Mikella Green

**What did I accomplish this week?**

**We had a meeting with Grag and Mikella where we agree to focus our problem only to future users.**

**We also discuss the possibility of using a new target variable. This variable would be** the difference respect to the median valence for every subject.

I trained and Tested 5 more different model to predict Valence as a regression problem.

The models were: SVM, Elastic Net, Ridge regression, XG Boosting and Bayesian Ridge Regression

I programmed a pipeline to compare all the metrics (MAE, MSE, RMSE) for all the different models in a

Group Schuffle CV with 10 splits.

I selected the most efficient model for a regression problem that is trying to predict Valence

and the most efficient model for a regression problem that is trying to predict the Valence median difference.

I communicated with our contact in Fitbit, she did not reach out back to me yet.

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

None

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

We did not tried to train model for positive nor negative valence given our meeting with Dr. Larkin.

Nevertheless, we could try to see if we get better performance than with the current target variables.

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

Now I feel we are in a good track. At least we have more clear deliverables

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

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

I consider that we are.

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

Wait for a response from Fitbit and have a meeting.

Check if we get good results transforming our regression predictions into binary labels for both valence and median valence.

Will train (probably a RF and a SVM) a full model using the brain data and a new feature (the delta between to features).

Will train a model without any survey, nor demographic data to compare.

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

Yes, I still want to meet with someone that works with heart rate and Fitbit to discuss feature engineering.

Hour card

Worked

24/02/2020

None – was feeling sick

25/02/2020

11:40 - 12 Meeting with Kyle Bradbury to discuss how to deal with repeated measures for new observations

14:30 - 15 Meeting with Greg, Mikella and Sicong. We discussed the idea of using a new feature for the predictions (The difference respect to the median valence for every subject).

26/02/2020

10-11:30 / 13-17 Trained several models: SVM, ElasticNet, Ridge regression, XG Boosting and Bayesian Ridge Regression with an older train/test split (the same used for the previous models)

Created a pipeline to binarize the predictions into labels in order to get prediction metrics (accuracy,recall,f1,precision).

27/02/2020

10 – 13

16:30 - 19:30

23 – 24 Programmed a pipeline to compare different metrics (MAE, MSE, RMSE) for the above-mentioned models in a 10 Group Shuffle CV. Selected two final models (one for each target variable) for a regression problem with the current data (Random Forest for Valence, SVM for the Median Valence).

TOTAL 12 hours