Classification of physical activities

Machine learning

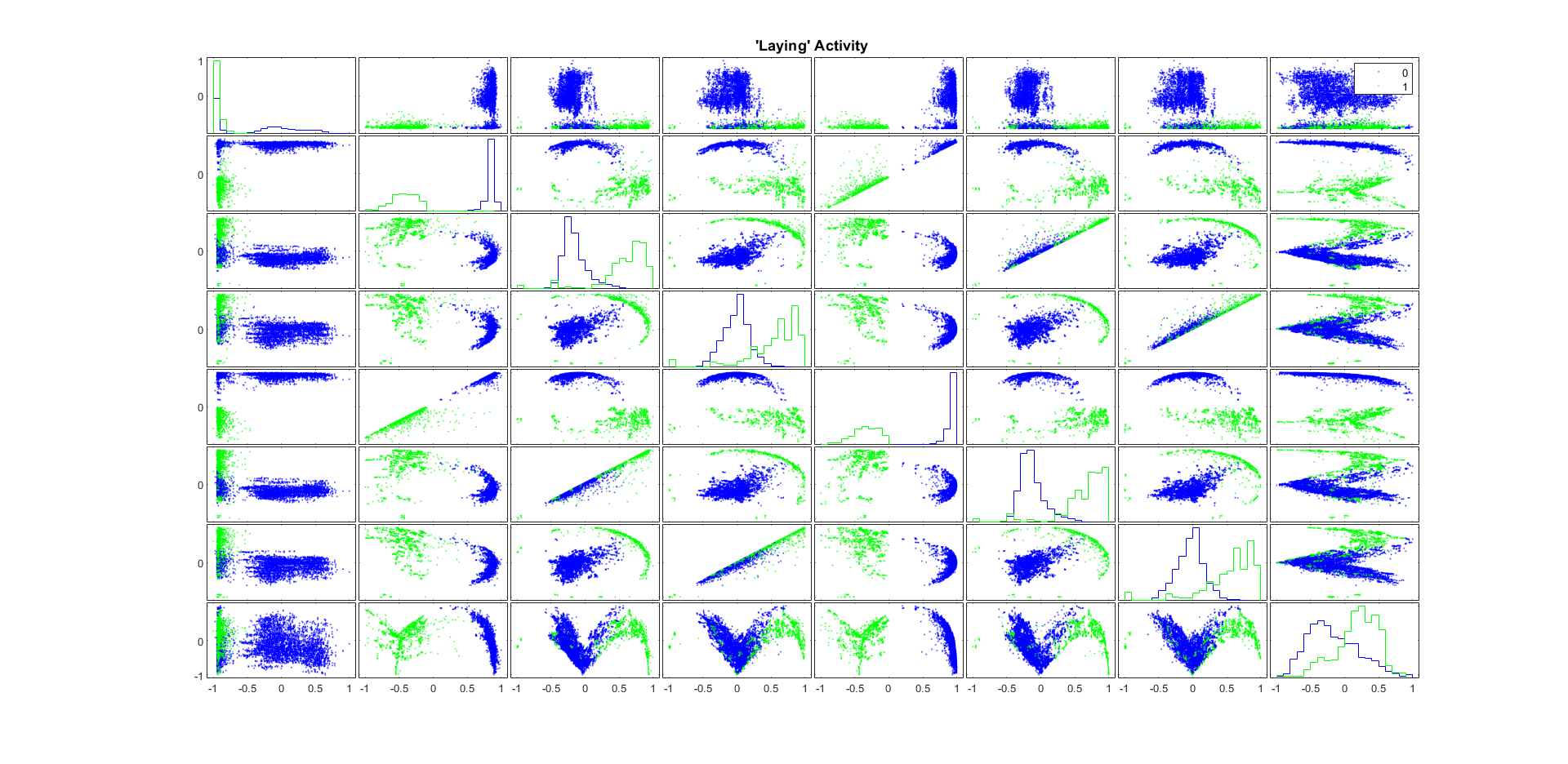
Soufiane Salama, michel banken

2019

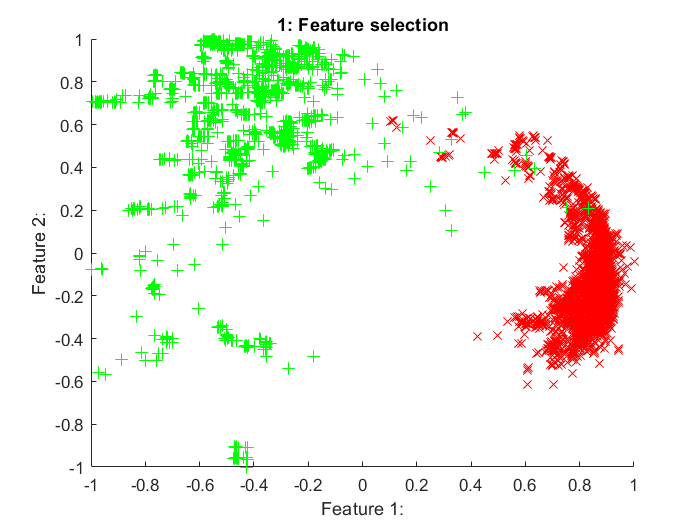
# Exercise 1: Feature selection

In the assignment one activity has to be selected as the “interested” activity for classification and two features with distinguished separation.

After plotting all the possible combinations of features we have selected the activity ‘Laying’, because multiple features according to this activity show a good and distinguished separation.



One of those sets of features consists of feature 2 and feature 6. The report will use these two features as selected features. The figure below plots the two features individually for a clear view of the features and separation.



# Exercise 2: Classification: Logistic regression

## 2.1 Cost function and gradient

Adding the MATLAB functions from programming exercise 2.

## 2.2 Linear model with 2 features

After selecting two features, normalization (Mean Normalization) was implemented. The features are now better scaled and show a better range and in general more circular shaped.

Mean Normalization:

Now that the features are normalized we need to dived the dataset into three sections

To optimize the learn parameter ‘theta’,

# Appendix

## Exercise 1: Feature selection

Alle gplots van de andere activities