Bullet points presentations

# External presentation 1

**Introduction**

Introduction team, motoric skills development, duration from 10 minutes.

**Gross motoric skills**

Maybe you don’t often think about it but every day you use gross motoric skills. For example, with walkin, biking or even something like throwing a ball. But what happens if all these skills weren’t that usual and something like walking is very hard for you?

**Startvaardig**

StartVaardig is a project that focuses on the development of gross motor skills. The project was founded in 2018 and will last until 2023. With this project they want to provide neighborhood coaches with information and resources to recognize motor deficits at an early stage. And avoid these yourself where possible. Motor skills have a great value, so the child can have more self-confidence, but these children also exercise more, etc.

**Measurements and tests**

Tell something about how the test had been taken and what it stands for.

**Our goal**

Read the sentence.

# Internal presentation 4

**Introduction**

Introduction team, motoric skills development, duration from 10 minutes.

**What have we done**

Explain what we have done and what the struggles were.

**Model scores**

Point out the best scores, still finetuning and K-means isn’t done yet. And still receiving data.

**Next steps**

Explain why this are our next steps.

**Doubts**

Ask the class and teacher what we should do.

# Internal presentation 6

**Introduction**

Introduction team, motoric skills development, duration from 10 minutes.

**What have we done**

Explain what we have done and what the struggles were.

**Model scores**

Point out score improved, but still fine tuning.

**Next steps**

Explain why this are our next steps.

# External presentation 3

**Next steps**

* Constant circle
* Receiving new data

**Data preparation and feature selection**

Split data cleaning in 3 steps: basics, outlier detection and imputation.

Basics: by cleaning the basics it means for example identify columns that have one value or identify rows with duplicated data.

Outliers: We tried that in multiple ways: the mean and the IQR method. At the and the IRQ gave a higher result than the other so were working with the IRQ.

Imputation: with tried that in different ways. At the end we had made a prediction model to imputated the gaps. A side note is that all columns that had more than 20% missing were deleted.

Since there were more than 100 features in the dataset, there was an overlap between the features. This can have a negative impact on the model. For this study, it was decided to remove one of those features if features have a correlation of 0.8 or higher. To perform this feature selection, a Heatmap and random forest is used. In this graph the correlations can be visualized.

Also, the heatmap had a filter function: Features may have little or no correlation with the output variable: MQ-score t1. According to the 2018 book van Buijs, a correlation lower than 0.2 is a very weak relationship. These weak links can be filtered out.

**Models and evaluation**

Like you see on the side we tried 5 different models to predict the MQ score. These models were chosen because of other research’s that point out that these models can be helpful.

These models were evaluated on three ways: confusion, false negative rate, and precision-recall curve. The confusion matrix helps us visualize were the model were wrong. After that the false negative rate can be calculated. That’s the degree the model predicted having motoric skills when they actual were lacking at that.

Precision-Recall is a useful measure of success of prediction when the classes are very imbalanced.

As be seen in de results the rate is round 20% for each model. That means that 20% of the children who were classified good did actual have a motoric lack. Were still working on the hyper parameters to lower this %.

FALSE NEGATIVE RATE!! -> WIRE FRAMES