1. Abstract
2. Introduction
   1. Research question

To what extend and in what way, can different unsupervised data science techniques be used on kinematic recordings to contribute to a more valid and more reliable diagnosis, made by a doctor, on shoulder disability.

* 1. Maybe pick up on last groups conclusion

According to their findings, they thought it’s possible to use kinematic analysis of shoulder motion for diagnostic purposes.

* 1. Why are we doing this research

To changes the status quo in the future and because of our minor Applied Data Science

* 1. Establish scope

1. Techniques(which techniques have been used in the methods?)
   1. Data enrichment
      1. NN-Velocity
   2. Cleaning
      1. Filtering in frequency domain
      2. Normalization /scaling
   3. Model
      1. Logistic regression
      2. CNN (depending on results)
      3. Accuracy, recall, precision, Matrix
   4. Decreasing amount of assumption
      1. Labeling columns by WU standard (LUMC mix)
      2. Labeling the exercises
      3. Leaving out PG 4
   5. FoB
      1. FoB as golden standard for generating kinematic recordings
2. Methods (what did we do to get results?)
   1. Data enrichment
      1. Double exercises
      2. Wrongly named files
      3. Occupied space
      4. Frame Gen including
         1. Combining exercises(650)
   2. Cleaning
      1. Remove idle
      2. Double exercise
      3. Wrongly named files
      4. Only using standardized exercises
   3. Model
      1. 1000 different LR configuration with brute force

In order to find out, which datapreparation

* + 1. CNN (depending on results)
  1. Decreasing amount of assumption
     1. Elbow angle left out
     2. Visualization

1. Result (What’s the base for our conclusion?)
   1. Different methods give different results(based on accuracy, precision, recall)
   2. What is the best result, what is the worst?
2. Discussion
   1. Was the result sufficient and why based on accuracy, precision, recall, matrix to make a reliable classification
   2. How should the results be interpreted?
   3. What are theoretical implications and possible practical applications
   4. Point out any exceptions or any lack of correlation define unsettled points
3. Conclusion (Can we answer the main research question?)
   1. Answer research question

What extend?(accuracy and precision), what way(methods) can data science techniques(techniques)

* 1. Summarize on everything that has been done to get there.