**Notes 04/02 2020**

**Procrutes:**

If we include scaling in the spatial alignment, we would lose information regarding the height of the test person or the bone length

Maybe just start with the translation

Order of the rotation might be different

Start with two shapes and check each alignment (translation, rotation etc.)

Create own artificial example

Have one shape and calculate mean point (mean = R1x3)

Subtracting the mean from each body point to move the body shape to 0,0,0

Start at the lowest possible level

**Dynamic Time Warping:**

Distance matrix containing distance between any two samples

The path with the shortest distance defines how the sequences aligns

The question about whether we can look at the Z-axis for one foot is enough is a good consideration

Take good care of what we are examining actually makes sense (looking at foot gives no information of hands “ofc”)

Generalized canonical time warping

Figure out what is a “good” alignment

**Notes:**

Maybe we won’t be able to tell what direction the person is facing with the spatial alignment

Figure out how we want to plot the body shapes (reconsider)

Consider the simplest case, and if our ideas and algorithms don’t work here, they need to be improved

**ToDo:**  
(0) Select two actions (or if more then related ones)  
  
(1) Spatial alignment bug fix:  
Small steps! Create small examples  
What is a good/bad spatial alignment?  
  
(2) How to visualise body shapes of different sequences?  
For manual check of temporal and spatial alignment  
How do others do it?  
  
\_\_\_\_\_ (nice to have)\_\_\_\_  
(3) How do others align body shape sequences?  
In time and space?  
  
(4) What kind of extensions/adaptations of DTW are available to align 3d   
body shapes?  
"Generalized Canonical Time Warping", Feng Zhou and Fernando De la Torre  
<http://www.f-zhou.com/ta/2013_PAMI_CTW_Draft.pdf>