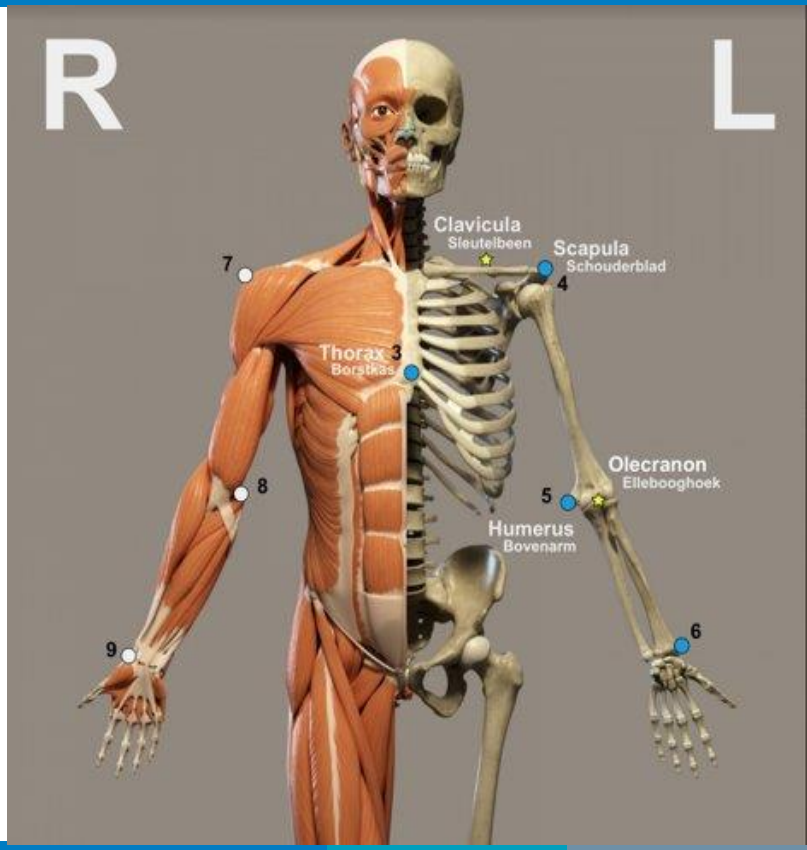
Leids Universitair Medisch Centrum

THE HAGUE UNIVERSITY OF APPLIED SCIENCES

Ortho Eyes

Dr. Tony Andrioli
Raphael, Brice, Eddie, Hassan, Arjun, Lennart



Dr. ir. J. H. (Jurriaan) de Groot

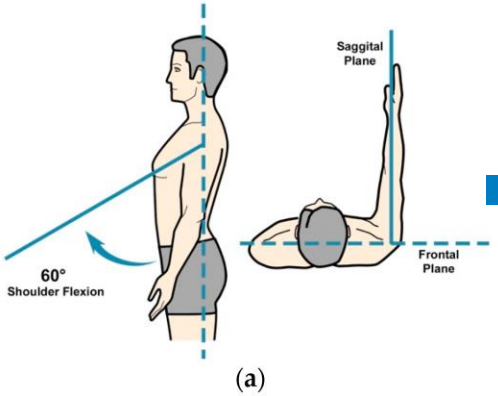
Hoofd Research and Development

Vakgebied(en)

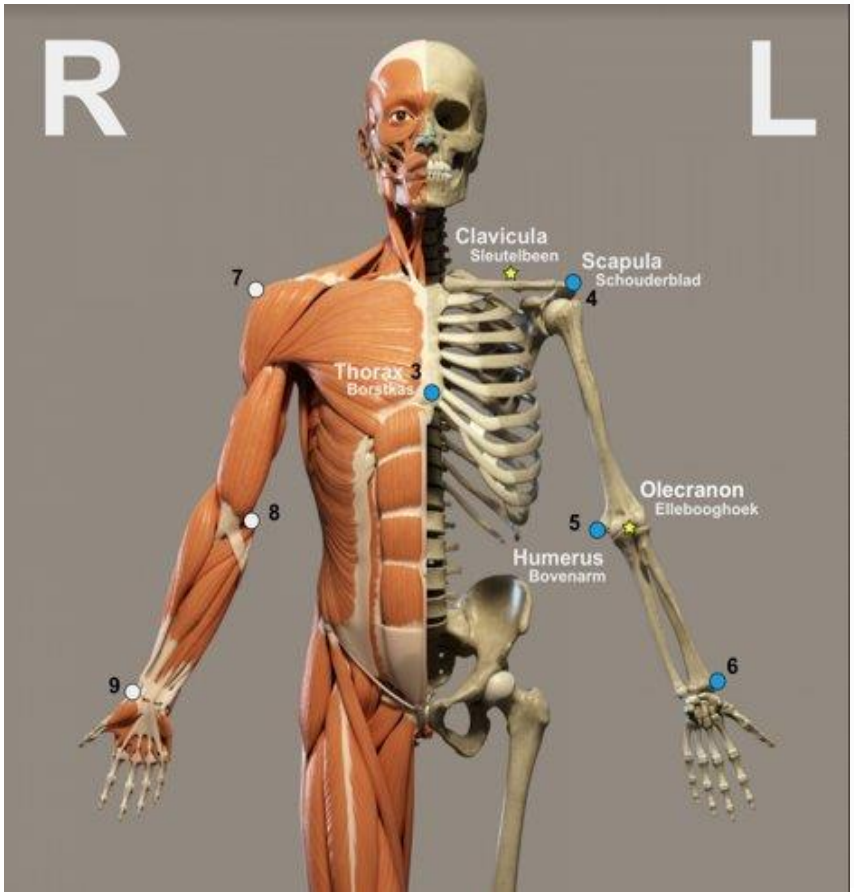
- Innovatie in diagnostiek en behandeling (Centraal neurologische & Neuromusculaire aandoeningen, Schouderpathologie)
- Hoofd Laboratorium voor Kinematica en Neuromechanica (LK&N)
- Blokcoördinatie Technische Geneeskunde

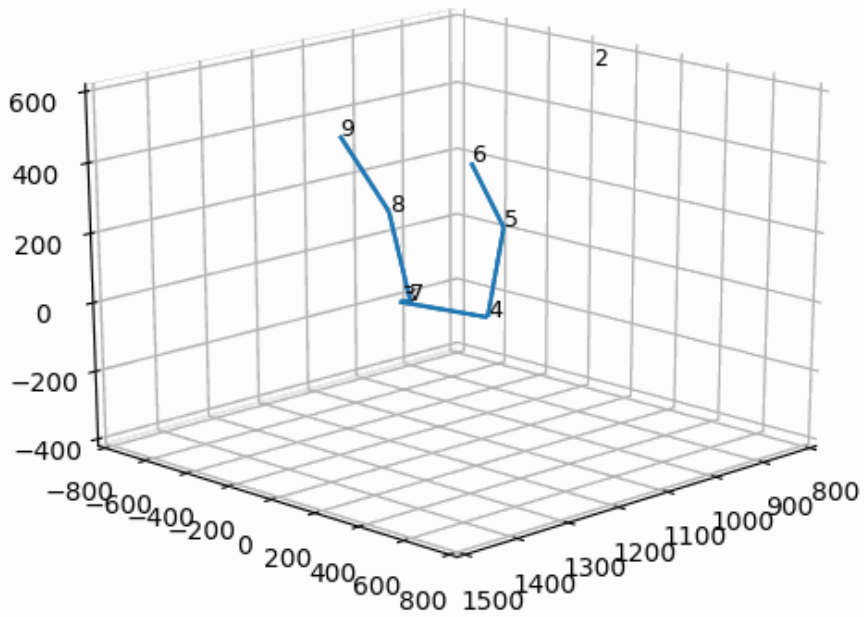
Origin of the data

- Anonmyzed sensor data
- Categorized in four groups
- Multiple exercises



Visualization





Visualization

Research Question

To what extent and way can different unsupervised data science techniques be used on kinematic recordings to contribute to a more valid and reliable diagnosis made by doctors on shoulder disabilities?

Sub Question

- What parameters are most valuable for the model?
- Can new parameters be found?
- Can new categories be found by using unsupervised learning?
  - Do the newly found categories make sense to a doctor?

Our Approach

- Reproducing the results of last group (supervised)
  - Wil give us insight in the recordings and parameters used.
  - On confirmation of the results, they can be published.
- Analyse of most useful parameters from the supervised method. And think about different possibly useful parameters, like entropy
- Research on relevant literature
- Test different clustering techniques, with different parameter sets
  - What groups do the different models create for us?

Questions & Suggestions