Data documentation

Data

This document describes shared data that is the basis for the following manuscript:
V. Gritsenko, R. L. Hardesty, M. T. Boots, and S. Yakovenko (2016) Biomechanical constraints underlying motor primitives quantified from the musculoskeletal anatomy of the human arm.

The data consists of matrixes of Pearson correlation coefficients and associated p-values for individual healthy human subjects. The correlations were between pairs of muscle lengths across postures spanning the full range of motion of the human arm. The muscle lengths were calculated from OpenSim models scaled to anthropometric measurements of 10 individuals and an average male (idSubject 0).

Data for each subject is in a separate comma separated text file entitled **data_p_idSubject_#.txt** or **data_r_idSubject_#.txt**, where # identifies individuals. Files entitled **data_r_idSubject_#.txt** contain Pearson correlation coefficients between lengths of one muscle identified in the column header and the second muscle identified by the row number in the idMuscle column. Column headers also include the name of the degree of freedom (DOF) that the values correspond to. Empty values mean that the corresponding muscle pair does not span the corresponding DOF. Files entitled **data_r_idSubject_#.txt** contain p-statistic of the Pearson correlation coefficients organized the same way as in the data_r_idSubject_#.txt file.

Metadata

The headers in data files contain abbreviated muscle names and DOF names described in meta files:

metaMuscle.csv

The file contains information about the muscles included in the analysis and the data files:

- idMuscle - muscle IDs used in the data files
- sMuscleList - abbreviated muscle name used in column headers in the data files
- sDescription - full name and description of muscles or their compartments

meatDOF.csv

The file contains information about the DOFs included in the analysis and the data files:

- sDOFlist - abbreviated DOF name used in column headers in the data files
- sDescription - the description of joints and directions of motion the DOFs describe

Contact info

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