Instructions for Dataset accompanying publication "**Objective analysis of neck muscle boundaries for cervical dystonia using ultrasound imaging and deep learning**"

This dataset supports the publication

Manuscript: Objective analysis of neck muscle boundaries for cervical dystonia using ultrasound imaging and deep learning  
Manuscript DOI: 10.1109/JBHI.2020.2964098  
Manuscript ID: JBHI-00498-2019  
Publication: *IEEE Journal of Biomedical and Health Informatics*

The data includes 2172 transverse US images of the neck, corresponding manually annotated labels segmenting 13 muscle/ligament/vertebra segments from 61 participants (35 cervical dystonia, and 26 age matched controls). The dataset includes the accompanying clinical (Dystonia, Control), sex (M, F), age, and anonymised participant IDs for the 61 participants.

The data file ‘DataAccompanyingPaper.mat’ contains the following variables which can be opened using MATLAB.

Participant\_Number, 1 x 61 double, [1, 2, … 61]

Participant\_Age, 1 x 61 double, (range 37 to 82)

Participant\_Sex, 1 x 61 cell, (‘male’,’female’)

Participant\_ClinicalCondition, 1 x 61 cell, (‘dystonia’, ‘control’)

Image\_Data, 491 x 525 x 2172 uint8, (grayscale pixel values)

Image\_Labels, 491 x 525 x 2172 uint8, (class label (1 to 15) pixel values)

Image\_DataSet 2172 x 1 (cell), dataset source of each image (‘Head Motion’, ‘Posture’), as described in the paper.

Image\_ParticipantNumber, 2172 x 1 double, (participant number for each image)

ClassNames. 15 x 1 cell, names of muscle/ligament/vertebra/skin/no class category to which each pixel belongs.

Please will you cite both the source publication (DOI: 10.1109/JBHI.2020.2964098) and the dataset (DOI: [10.23634/MMUDR.00624643](https://doi.org/10.23634/MMUDR.00624643)) for any publication using this dataset.

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