

Readme for R-analysis

Modify the the "loadData.r" file as needed and run it to load the data for analysis

In the "MixedLinearModel.r"-file, run the first section to load the libraries needed. The second section is necessary to run to setup the data. It also performs the fits needed for figure 6 in M. Skaarup et al. "A framework for voxel-based assessment of biological effect after proton radiotherapy in pediatric brain cancer patients using multi-modal imaging". (2021).

The third section creates the figure (figure 6 in the paper)

The fourth section ("The nested model and predictions") creates the nested models (line 212-230) and uses them to make predictions based on the parameters described in line 232-254.

Line 256-317 evaluates residuals of the predictions from the models to the true data using an excluded patient from the analysis. The excluded patient is set in line 218.

Line 322-428 creates figure 4 in the paper above. An additional combined figure is created, but since this one is a little busy, each subplot of figure 4 is created in line 377-428.

Finally, figure 5 in the paper is created with the lines 435-476.