**Longitudinal Analysis of Gait Data in Dementia Patients**

This repository contains MATLAB and R scripts for conducting longitudinal analysis and vitalization on gait data of dementia patients living in a long-term care hospital, developing mixed effect models to predict hospital visits.

**About**

Provide context about the aim of the analysis, which is to compare gait variables between hospitalized and non-hospitalized dementia patients residing in a long-term care hospital.

**MATLAB Scripts**

List and briefly describe the MATLAB scripts available in the repository, along with their functionalities or purposes.

1. **DataPreparation\_longitudinalAnalysis**: MATLAB script for preprocessing gait data for longitudinal analysis.
2. **DemographicParameters.m**: MATLAB script for extracting patients' demographic parameters.
3. **EventDayCounter.m**: MATLAB script for

**R Scripts**

List and briefly describe the R scripts available in the repository, along with their functionalities or purposes.

1. **statistical\_analysis.R**: R script for conducting statistical analysis on longitudinal gait data and comparing variables between groups.
2. **visualize\_results.R**: R script for visualizing the results of the analysis, including group comparisons.
3. **longitudinalAnalysisCode.R:**
4. **Meta-Analysis-ForestPlot.R:**
5. **spaghetti plot:**
6. **Violin plot:**

**Usage**

Provide instructions on how to use MATLAB and R scripts for comparing gait variables between hospitalized and non-hospitalized dementia patients in a long-term care hospital. Include any prerequisites, input data formats, and steps for running the scripts.

**Published Paper**

Reference the published paper from this project:

* Link to the published paper