

Which geographical, socio-economic and facility attributes
predict hospital readmission from
Skilled Nursing Facilities

MSc Research Project
MSc in Science of Data Analytics

Michelle Waters
Student ID: X17100020

School of Computing
National College of Ireland

Supervisor: Jorge Basilio

Which geographical, socio-economic and facility attributes predict hospital readmission from Skilled Nursing Facilities

Configuration Manual

Michelle Waters
X17100020

1 Prerequisites

1.1 Software and Operating system

Ensure that you have the minimum specification of IDE and underlying operating system:

- Operating system - Windows 10
- IDE - RStudio version 1.4.1106 (<https://www.rstudio.com/>)

1.2 Libraries

Install following R libraries

- afex
- Boruta
- caret
- corpcor
- corrgram
- corrplot
- DMwR
- doParallel
- dplyr
- e1071
- factoextra
- ggplot2
- ggpubr
- ggthemes
- glmnet
- gmodels
- GPArotation
- gridExtra
- heatmaply
- Hmisc

- magrittr
- mice
- mlbench
- naniar
- onewaytests
- parallel
- PerformanceAnalytics
- plyr
- psych
- randomForest
- readxl
- rpart
- rstatix
- smotefamily
- stringi
- stringr
- summarytools
- tidyr
- tidyverse
- VIM

2 R Code

2.1 Set up files

Create a folder called Project located on the D drive.

Extract the contents of SNF_Code_Files.zip into D:\Project. (Note: if you need to change this folder location or name you will need to change the working directory location on line 37 - `setwd("D:/Project")`).

This folder should now contain the following files:

- SNF_Code_Final.R
- county_rankings.csv
- deficiencies3.csv
- model_dataset.csv
- model_sensitivities.csv
- snf_basedata.csv

2.2 Run the code

Highlight the lines of code to be run and select Code -> Run selected Line(s)