**This document describes the files in this GitHub repository. Moreover, it provides a small tutorial to the readers about how to run the R code in a step-by-step manner.**

* File “R environment.RData” initialises the R environment (R objects) to generate all data during this study based on the original BO06 data (the BO06 dataset is not needed).
* Zip file “synthetic data.rar” provides randomly generated synthetic data (n = 1000) for 20, 40, 61 (as original, user defined), and 80% censoring. These datasets were used to fine-tune parameters for PLANN original and PLANN extended for each scenario.
* File “R code - all files.R” provides the code used for the analyses. Code from different R sub-files is merged in one document. Details about these sub-files are provided below.

1. Sub-file "the\_functions2.R" contains functions for the estimation of the predictive performance (discrimination, calibration) for all methods. It is necessary to call it when tuning the PLANN models or running the simulations.
2. Sub-file "functions\_nn.R" contains functions for data pre-processing and measure calculation of PLANNs. It is necessary to call it when tuning the PLANN models or running the simulations.
3. Sub-file "create\_train.R" splits randomly generated synthetic data ("data.RData", n = 1000 for each scenario) into training and test sets. The training set produced ("training\_ovr\_scaled.RData", n = 500) is used with 5-fold cross validation to tune PLANN original and extended.
4. Sub-file “snn\_training\_nnet.R” is used to tune the parameters for PLANN original with library nnet for e.g 61% censoring, yearly intervals before performing the simulation studies.
5. Sub-file “snn\_training\_keras.R” is used to tune the parameters for PLANN extended with library keras for e.g 61% censoring, yearly intervals and sigmoid activation function for the input-hidden layer before performing the simulation studies.
6. Sub-file “simulations1\_ibs.R” is the **core** file to run simulations using "R environment.RData" that sets up necessary parameters based on the original BO06 data. Censoring times are generated with a Weibull distribution. The optimal IBS parameters identified from “snn\_training\_nnet.R” and “snn\_training\_keras.R” are used for PLANN original and PLANN extended, respectively. Sample size is set to n = 250 or 1000. You need to create folders results\_simulations1 (used for n = 250) and results\_simulations2 (used for n = 1000) and subfolders results\_simulations1/snn\_ibs, results\_simulations2/snn\_ibs to store the results for all methods in the destination of this R file.
7. Similarly, simulations can be run for optimal parameters regarding C-index (“simulations1\_cindex.R)”.
8. Examples are provided on how to simulate data for 20, 40, 61% user defined and 80% censoring in sub-files called "example\_20perc.R", "example\_40perc.R", "example\_61perc\_user.R", "example\_80perc.R". Then, using the same R code as in the core file (step f), simulations can be run for all methods (PLANN original, PLANN extended and Cox).
9. Finally, files “lineplots.R", “boxplots.R” and “bargraphs.R” can be used after the analyses for visualization of the results. These create lineplots, boxplots and bargraphs for all the methods based on stored results in destination folders called “results\_simulations1” (used for n = 250) and “results\_simulations2” (used for n = 1000).

* Zip file “simulations 61% (as original).rar” is a comprehensive example of all the aforementioned steps for synthetic data with 61% censoring (as the original BO06 dataset).