Workfolio

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Contents

Flows

CutFlow

CutFlow is designed to generate cut points for multiple variables, using a training dataset, and apply these cutpoints to both the training dataset and any validation sets supplied.

Arrange your data to meet the following criteria;

- Carry out any exclusions
- Include an identifier variable
- Your status variable needs to be coded as 0 and 1, 0 for no event, 1 for an event
- Time variable must be included as a a continuous variable
- There is no limit on the number of variables you wish to generate a cutpoint for
- If coding multiple datasets, the respective variables must have the exact same name in all datasets
  - Additional datasets do not need to contain all variables from your training dataset, just those you wish to be coded in that dataset
- Save your dataset(s) as a CSV file
- Create a subdirectory in your R directory, and place your dataset files inside

To run CutFlow, simply fill in the blanks, as in the example below;

- Subdirectory is the name of the folder you placed your datasets in. It must be within your current directory
- TrainingData is the name of the dataset you wish to be used to generate the cutpoint
  - This cutpoint is then applied to all datasets within the subdirectory
- CutPointStatus is the status variable to be used (such as CSS)
- CutPointTime is the time variable to be used (such as Survival_2021)
- minprop is the minimum proportion of cases to be include either side of the cutpoint
  - Default is 0.1, exclude the argument if you don't want to change this
- Greyscale is an optional toggle to produce a greyscale variant of all plots
  - The default is colour, exclude the argument if you don't want to change this
- Variables is a list of your variables to generate cutpoints for

```
CutFlow(Subdirectory = "YourSubdirectory", TrainingData = "TrainingDataset",
        CutPointStatus = "StatusVariable", CutPointTime = "TimeVariable", minprop = 0.1,
        Greyscale = TRUE, Variables = c( "Variable1",
                                         "Variable2",
                                         "Variable3",
                                         "Variable4",
                                         "Variable5",
                                         "Variable6",
                                         "Variable7",
                                         "Variable8",
                                         "Variable9",
                                         "Variable10",
                                         "Variable11",
                                         "Variable12"))
```

A new folder will be created in your R directory;

- Folder name format is CutFlow_SystemData_Number
- Three folders are contained within;
  - 0 - A copy of all datafiles fed into CutFlow, for record keeping
  - 1 - A copy of all cutpoint data, including a pdf list of cutpoints
  - 2 - A copy of all datasets, newly coded

SurvFlow

SurvFlow takes in a dataset(s) and runs appropriate survival analysis.

Arrange your data to meet the following criteria;

- Carry out any exclusions
- Include an identifier variable
- Your status variables needs to be coded as 0 and 1, 0 for no event, 1 for an event
- Time variables must be included as a a continuous variable
- There is no limit on the number of variables you wish to generate survival output for
- Save your dataset as a CSV file

To run SurvFlow, simply fill in the blanks, as in the example below;

- Data is a Coded dataset in csv format. If using CutFlow, simply use the produced coded dataset
- Variables is a list of variables (coded as 0 and 1) for analysis
- LegendLabels are optional labels for your legends. Default is the value of the level (0 and 1)
- Identifier is an identifier variable for cases
- PlotTitles are optional plot titles. Default is variable name
- SurvivalStatus are status variables (coded as 0 and 1)
  - Must have the same number of elements as the SurvivalTime variable
- SurvivalTime are survival time variables - continuous
  - Must have the same number of elements as the SurvivalStatus variable
- SurvivalTimeUnit is the unit of time for survival time
- xYearSurvivalVar is the number of years to be used to calculate 'X' years survival. Default = 5
- SurvBase takes TRUE or FALSE. Toggle to activate base survival analysis.

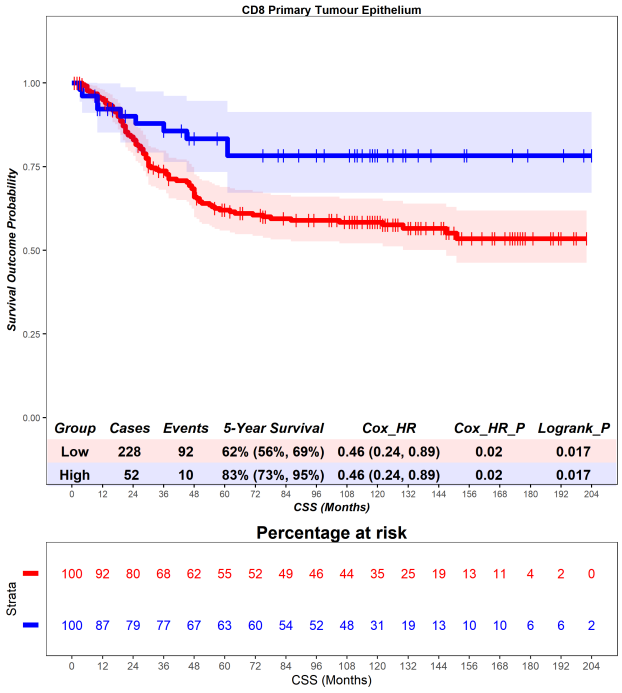
```
Data <- read.csv(file.choose(), fileEncoding = 'UTF-8-BOM')


SurvFlow(
  Data,
  Variables = c(
    "Variable1",
    "Variable2",
    "Variable3",
    "Variable4",
    "Variable5",
    "Variable6",
    "Variable7",
    "Variable8",
    "Variable9",
    "Variable10",
    "Variable11",
    "Variable12"
  ),
  LegendLabels = c("Low", "High"),
  Identifier = "Identifier",
  PlotTitles = c(
```

```
    "Title1",
    "Title2",
    "Title3",
    "Title4",
    "Title5",
    "Title6",
    "Title7",
    "Title8",
    "Title9",
    "Title10",
    "Title11",
    "Title12"
  ),
  SurvivalStatus = c("Status1", "Status2", "Status3", "Status4"),
  SurvivalTime = c("Time1", "Time1", "Time2", "Time2"),
  xYearSurvivalVar = 5,
  SurvivalTimeUnit = "Months",
  SurvBase = TRUE
)
```

A new folder will be created in your R directory;

- Folder name format is SurvFlow_Filename_SystemData_Number
- Inside is a folder per SurvFlow module, for example BaseSurv
  - At the next level is a folder per survival status/time pair, containing the survival plots
- The plot can be seen as below;



Utilities

Gantt