`subgroupsem`: An R package for mining exceptional models

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Preface

About `subgroupsem`

`subgroupsem` is an `R` package for mining exceptional models. Althoug the package was originally developed for mining structural equation models, it can be used with any kind of statitical model and external packages as it optimizes a user-defined function. Given a dataset and a set of covariates or group variables, `subgroupsem` uses algorithms from the data mining framework to find exceptional sub-samples with respect to the user-defined criterion. `subgroupsem` iteself is only a wrapper for the python module `pysubgroup` authored by Dr. Florian Lemmerich and makes use of the `reticulate` package to interface `R` with `pysubgroup`. Together with Dr. Lemmerich, we demonstrated how to use model mining alogorithms to structural eqaution models. Check out the corresponding article can be found here.

Changelog

- 2020-12-31: First Commit

Chapter 1

Installation

`subgroupsem` is not currently available on CRAN. It is therefore required to install `subgroupsem` via github using, for instance, the `devtools` package. Make sure you installed the package beforehand or simply copy the following code to install both packages in one step.

```
if (!require("devtools", character.only = T)) {
  install.packages("devtools")
}

devtools::install_github("langenberg/subgroupsem")
```

After running these lines, we are ready to go and perform our first analysis.