

Seminar: “Decision Analytics in R” (with “Topics” option on request)

Summer Semester 2015

Course Description:

R is a free software programming language and software environment for statistical computing and graphics. The R language is widely used among statisticians and data miners for developing statistical software and data analysis. Polls and surveys of data miners are showing R's popularity has increased substantially in recent years.

R provides a wide variety of statistical and graphical techniques, including linear and nonlinear modeling, classical statistical tests, time-series analysis, classification, clustering, and others. R is easily extensible through functions and extensions, and the R community is noted for its active contributions in terms of packages.

The capabilities of R are extended through user-created packages, which allow specialized statistical techniques, graphical devices (ggplot2), import/export capabilities, reporting tools (knitr, Sweave), etc. A core set of packages is included with the installation of R, with more than 5300 additional packages (as of March 2014) available at the Comprehensive R Archive Network (CRAN), and other repositories.

In this seminar, we will focus on advanced packages used to solve cutting-edge problems in data mining. We will review different packages for data collection, data analysis, and data visualization.

Individual assignments will consist of a specific library in R which will be presented during the seminar. Each participant will find sample datasets to explain the functions inside the package him/herself.

Target Group:

This Seminar specifically addresses students in the M.Sc. Economics and M.Sc. VWL programs. Interested and committed B.Sc. VWL and BWL students may also participate.

Organization:

Registration: from February 23, 2015 to April 13, 2015

Application via email to stefan.feuerriegel@is.uni-freiburg.de with the following details:

- First name, last name
- Matriculation number (Matrikelnummer)
- Email, phone number
- Study program, semester
- Previous grades in statistics, econometrics and computational economics

Response whether application was successful in the beginning of April, 2015

First meeting: **May 08, 2015 10 am**

Room 2330

Final presentation: In summer 2015 (date to be announced)

Communication:

All announcements, handouts, etc. will be sent via email.

Topics:

Exact topics along with hints on literature will be announced at a later point. Each participant will give an introduction into a specific library from the statistics software “R”.

Upon request, this course can count as a “Topics” course if the student fulfils the eligibility. If so, the student is required to extend the paper, adapt it to a conference form/layout.

Policies and Procedures

Grading: Draft of seminar paper (about 10 to 15 pages), corrected version thereof and final presentation
The seminar paper can be written in English only.

Credit points: 6

Credit points are applicable to: Wirtschaftsinformatik, BWL

Chair: Prof. Dr. Dirk Neumann
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