Centre for Statistics
SRM Institute of Science and Technology
Workshop on Regression Analysis using R

About the Course

Regression models are being used with increasing frequency in areas of Engineering and Technology This program will enable the participants to perform analyses of their own data, and to interpret, predict, communicate and publish the results. It focuses on developing participant's proficiency in building and evaluating various regression models in their own fields.

Topics covered include exploratory and descriptive methods, simple and multiple linear regression models, predictor selection, binary and multinomial logistic regression models and survival analysis. The course will have a heavy emphasis on practical applications, making extensive use of R-Programming Language for data analysis.

Prerequisites:

Basic knowledge of Statistical terms like mean, p-value, confidence interval and hypothesis is required.

Learning Objectives

By the end of the course, the participant will be able to identify and apply:

- ➢ The main statistical techniques of regression analysis in their own field.
- ➢ Concrete analysis ability and best-practice guidelines.
- ➢ Appropriate regression techniques to address research questions and hypothesis.
- ➢ Become proficient in the use of R Programming software to perform regression analysis.
- ➢ Interpret findings; Communicate results clearly and effectively;
- ➢ Understand statistical assumptions and to detect and address violations;
- ➢ Recognize strengths and weaknesses in analyses and formulate constructive critiques
- ➢ Write statistical reports using appropriate terminology, analyses, and graphs.

Course content

- ➢ Regression – basic concepts and definitions, regression coefficients and their Properties
- ➢ Simple linear and Multiple regression model – Description of data model, evaluation of fit, model adequacy and residual plots, variable transformation, variable selection, indicator variable

- ➢ Logistic regression model- Binary, Multinomial and Ordinal
- ➢ Proportional hazard model- survival analysis

Target Groups/ Participants

Faculty, Research Scholars, and Post- Graduate students from Engineering and Technology related fields who want to work with regression models in their own research or wish to understand regression model based analyses found in the literature.

The program will be held at ZOOM application,

Course Date

14th Dec 2020 – 18th Dec 2020

Venue

University Building, 13th floor, Centre for Statistics

Participant Fee

1000 INR/Person

Co-ordinator

Dr. M. Bagavandas (Head)

Course Instructors

Dr. M. Bagavandas

Dr. Dhivya. K

No of Participants: 01