Rapport package team

GLM

2011-04-26 20:25 CET

## Description

In this template Rapporter will present you GLM.

### Introduction

[Generalized Linear Model (GLM)](http://en.wikipedia.org/wiki/Generalized_linear_model) is a generalization of the ordinary [Linear Regression](http://en.wikipedia.org/wiki/Linear_regression). While using GLM we don't need the assumption of normality for response variables. There are two basic ideas of the model: It allows the linear model to be related to the response variable via a link function and the magnitude of the variance of each measurement to be a function of its predicted value. An extinsion to the GLM is the [Hierarchical generalized linear model](https://en.wikipedia.org/wiki/Hierarchical_generalized_linear_model).

# Overview

Multivariate-General Linear Model was carried out, with *Internet usage in leisure time (hours per day)* and *Internet usage for educational purposes (hours per day)* as independent variables, and *Age* as a dependent variable. The [interaction](http://en.wikipedia.org/wiki/Interaction) between the independent variables was taken into account.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | z value | Pr(>|z|) |
| **(Intercept)** | 3.198 | 0.02122 | 150.7 | 0 |
| **leisure** | -0.02021 | 0.005847 | -3.457 | 0.000547 |
| **edu** | 0.01474 | 0.007586 | 1.944 | 0.05196 |
| **leisure:edu** | 0.004439 | 0.001795 | 2.472 | 0.01342 |

Fitting General Linear Model: age based on *leisure* and *edu*

From the table one can see that

* (Intercept) has significant effect on the dependent variable, the p-value of that is 0
* leisure has significant effect on the dependent variable, the p-value of that is 0.001
* leisure:edu has significant effect on the dependent variable, the p-value of that is 0.013

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | z value | Pr(>|z|) |
| **(Intercept)** | 3.163 | 0.01605 | 197.1 | 0 |
| **leisure** | -0.0095 | 0.003888 | -2.443 | 0.01455 |
| **edu** | 0.03071 | 0.003883 | 7.91 | 2.581e-15 |

Fitting General Linear Model: age based on *leisure* and *edu*

From the table one can see that

* (Intercept) has significant effect on the dependent variable, the p-value of that is 0
* leisure has significant effect on the dependent variable, the p-value of that is 0.015
* edu has significant effect on the dependent variable, the p-value of that is 0

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | Std. Error | t value | Pr(>|t|) |
| **(Intercept)** | 0.0422 | 0.0008599 | 49.08 | 4.612e-212 |
| **leisure** | 0.0003828 | 0.0002093 | 1.829 | 0.06785 |
| **edu** | -0.001182 | 0.0001948 | -6.065 | 2.332e-09 |

Fitting General Linear Model: age based on *leisure* and *edu*

From the table one can see that

* (Intercept) has significant effect on the dependent variable, the p-value of that is 0
* edu has significant effect on the dependent variable, the p-value of that is 0

This report was generated with [R](http://www.r-project.org/) (3.0.1) and [rapport](http://rapport-package.info/) (0.51) in *0.681* sec on x86\_64-unknown-linux-gnu platform.

