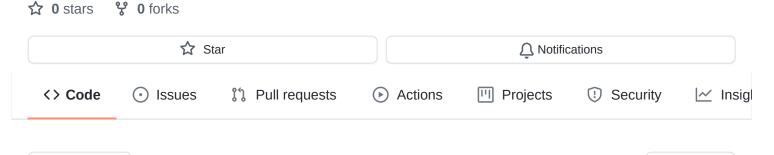
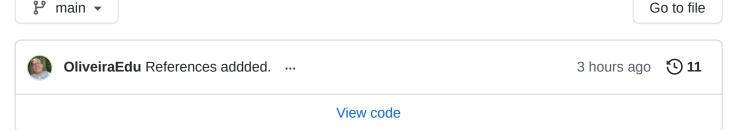


Final activity for the Science Computing course UNIJUI PPGMMC





**∷** README.md

# **Modeling (Octave and Matlab compatible)**

Given a dataset this application evaluates the data and generates two linear models:

Model 1 - Evaluation applies the Least Square Method and generates the linear model.

Model 2 - Evaluation takes two data points x, f(x) and generates the linear model.

## **Script**

modeling.m

### **Functions**

linear LSM.m - Least Square Method evaluation and modeling

linear\_two\_points.m - Two poins evaluation and modeling

plotting data models.m - Scatter plot the data and plot the models on the same figure

plotting\_residuals.m - Plots the residuals (forecast errors)

read\_prepare\_data.m - Reads the data and prepares for evaluations

statistical\_eval.m - Evaluates statistical metrics for both models (Mean Absolute Percentage Error, Root Mean Square Error and R-Squared)

### Main variables

data - Stores the dataset, first column hold the values for the independent variable, second column the values for the dependent variable.

yHat\_modeln - Stores the predicted values evaluated from the model n.

betaHat\_modeln - Stores the values for the angular coefficient and intercept for the linear function for the model n.

### Requirements

Dataset must be a csv UTF-8 formatted file, no headers.

Single dependent variable.

Independent variable on column one.

Dependent variable on column two.

This a 2D evaluation.

### References

Mathematical modeling

Stefan Heinz

Springer

Applied Regression Analysis: A Research Tool, Second Edition

John O. Rawlings Sastry G. Pantula David A. Dickey

Springer

#### Releases

No releases published

#### **Packages**

No packages published

### Languages

• MATLAB 100.0%