# Conference Paper Title

Brewton Morais

DETI

Universidade Federal do Ceará

Fortaleza, Brazil

brewtonlmorais@gmail.com

Cléber Lucas

DETI

Universidade Federal do Ceará

Fortaleza, Brazil
seuemail@email.com Update

Lucas Abdalah

DETI

Universidade Federal do Ceará

Fortaleza, Brazil
lucasabdalah@alu.ufc.br

Abstract—An analysis of classification models was done for a set of data with informations related to the request and approvals for research and academic activities. Using MATLAB 2022a, we trained different classification models, statistical and decision trees, such as Logistic Regression, KNN, LDA, CART, etc, making use of their respective confusion matrix as the results demonstrations. One of the goals these tests is to investigate if there are linear relationship between the provided predictors of the data base, in order to optimize the model that could be used by an university or a governamental instituion. Finally, we perform a comparison of the results and of the decision making about which model we understand to be the most efficient to the problem.

Index Terms—classification model, logistic regression, grand application, KNN

#### I. INTRODUCTION

This command is used for a strong suggestion.

This command is used for minor changes suggestion.

Classification models are a class of mathematical models constantly used in problems of assimilating observations of certain events to certain categories that define the problem. Nowadays, these models are considered tools of fundamental importance in the construction of Deep Learning and Machine Learning algorithms. To begin, it's important to evidence the main existing difference between this new class of models and the class of regression models which is the prediction of a qualitative variable instead of a quantitative one. This new class of tools present various practical applications, such as the development of a detection spam filter for emails based on the sender and on the content of the message, the development of classification techniques of a cell belonging to tumors, as beningn or malignant and on the development of a model of credit release for financing.

In addition to these pure classification models applications, there are mixed applications techniques that combine Data Mining techniques with some other types of models to perform a prediction. Some examples of models that use Data Mining techniques to improve their results are addressed by Sidropoulos Add reference, such as Web Mining/Search tensor models and Brain Data Analysis.

Meanwhile, in the work developed in this paper, some of the most used techniques in the development of classification models were approached, such as SVM, KNN and CART, to train and test a funding model that will separate observations into one of two available groups: Positive Founding and Negative Founding.

#### II. METHOD

#### A. Data set

The data used for the construction of the predictive models consists of 8708 samples of different requests for funding from universities around the world, to finance research, with the outcome being the success or failure of the request. The data set contains samples from the years 2005 to 2008, with a total of 1882 predictors (independent variables). 6633 samples from 2005 to 2007 and 1552 from 2008 were used for model training, and the remaining 518 samples from 2008 were used for testing the obtained model. Predictors can be separeted between continuous, such as the number of successes and failures passed by the "chief investigator", and categorical ones, such as the monetary value of the grant, divided into 17 groups of increasing amounts, and the month of application.

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- The subscript for the permeability of vacuum  $\mu_0$ , and other common scientific constants, is zero with subscript formatting, not a lowercase letter "o".
- In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
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  word alternatively is preferred to the word "alternately"
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An excellent style manual for science writers is [1].

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TABLE I TABLE TYPE STYLES

Table	Table Column Head		
Head	Table column subhead	Subhead	Subhead
copy	More table copy <sup>a</sup>		
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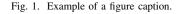


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Unless there are six authors or more give all authors' names; do not use "et al.". Papers that have not been published, even if they have been submitted for publication, should be cited as "unpublished" [5]. Papers that have been accepted for publication should be cited as "in press" [6]. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

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#### REFERENCES

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