# Zoo Animals Extended Dataset

Link: [Zoo Animals Extended Dataset | Kaggle](https://www.kaggle.com/datasets/agajorte/zoo-animals-extended-dataset/discussion?select=zoo2.csv)

Machine Learning (P02)

Artificial Intelligence, 2022-23

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<<This document has an appropriate structure for the project, however chapters can be deleted, changed, or added. Keep formatting consistent throughout the document. The project report should be concise and brief, not exceeding **6 pages**.

**Comments**, such as this one, placed between "<<" and ">>", **should be removed**.>>

# Introduction

<<Establish here the context and objectives of project 02, including the description and metadata of the data set used in the project.>>

# Automatic classification

<<The following tasks should be accomplished:

* Define the business goals to be achieved;
* Select two algorithms and the parameters to be used;
* Present the data selection criteria and explain how the data was prepared;
* Apply the ML algorithms and evaluate the generate models;
* Optimize the selected algorithm.

Document the intermediate and final results>>

// Pretende-se a partir de determinadas características, tentar identificar o grupo a que o animal pertence, nomeadamente: Aquáticos, predadores, mamíferos, voadores, aves, etc.

# Clustering

<<The following tasks should be accomplished:

* Define the business goals to be achieved;
* Present the data selection criteria and explain how the data was prepared;
* Apply and evaluate the K-Means algorithm;
* Optimize the algorithm parameters.

Document the intermediate and final results>>

# Association rules

<<The following tasks should be accomplished:

* Define the business goals to be achieved;
* Present the data selection criteria and the data preparation steps;
* Apply and evaluate the Apriori algorithm, adjusting the algorithm parameters.

Document the intermediate and final results>>

# Results Analysis

<< Present an analysis of the results obtained in the previous sections based on performance metrics. Include a **link to a Git repository** with the code developed under the project >>

# Conclusion

<<Include the lessons learned from the execution of the project.

The structure of the report should be adapted according to each project characteristics. Don’t forget to **remove these comments** (help text)!>>