TAAC - Practical Assignment 2 - Checkpoint 1

Daniel Carneiro, up202108832 Gonçalo Costa, up202108814

Index

- Developments from task 1
- Developments from task 2
- Changes/Experiments
- Future Developments

Task 1

- Case Study (<u>Classification</u>: Success or not?)
- Data Exploration (Read the dataset; Find nulls / Duplicates;)
- Data Visualization (Distribuição da variável alvo / coordinate_x, coordinate_y)
- Add new column (distance_to_hoop)
- Pre-Modeling analysis

Task 2

- In modelling analysis:
 - o Simple Decision Tree/Logistic Regression
 - Feature Importance
 - Permutation Importance
 - SHAP (SHapley Additive Explanations)

Changes/Experiments

- Adding a new column helped us understand the data
- How are we going to deal with "Free Throws"?
- Experimenting different White-Box models

Future Developments

- Task 3: Post-Modelling Explanations
 - Random Forest
 - Using a Surrogate Model to transform the Random Forest in a Decision Tree
 - Apply PDP, ICE, SHAP, LIME and/or Permutation Importance
 - Apply Anchors and/or Counterfactuals as the example-based techniques
- Task 4: Quality of the explanations