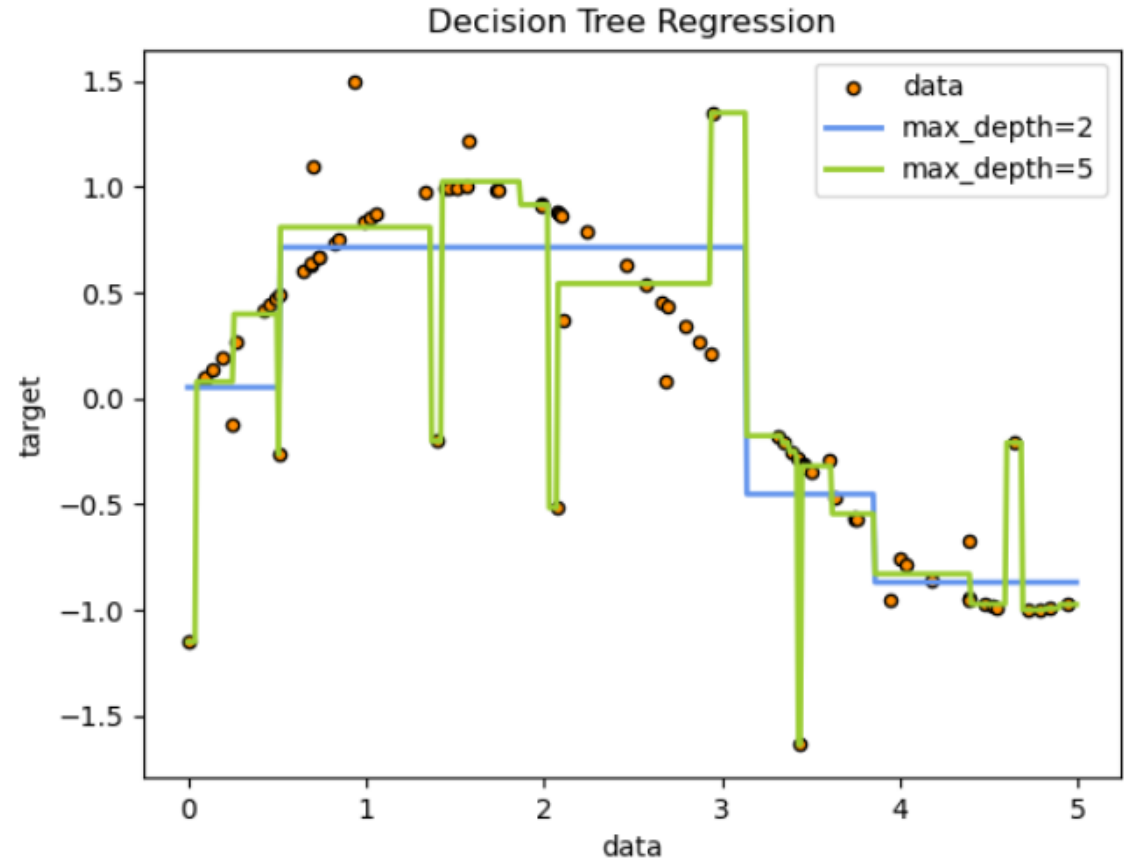# Decision trees considerations

Decision trees advantages

- Simple.

- Easy to interpret.

- Powerful for non-linear associations between features and targets.

- Require little data preparation.

Decision trees disadvantages

- Predictions are not continuous, but piecewise constant approximations.

- Not good at extrapolation.

https://scikit-learn.org/stable/modules/tree.html

Decision trees disadvantages

- Unstable: changing training data may lead to a different tree

- And hence different interpretations :/
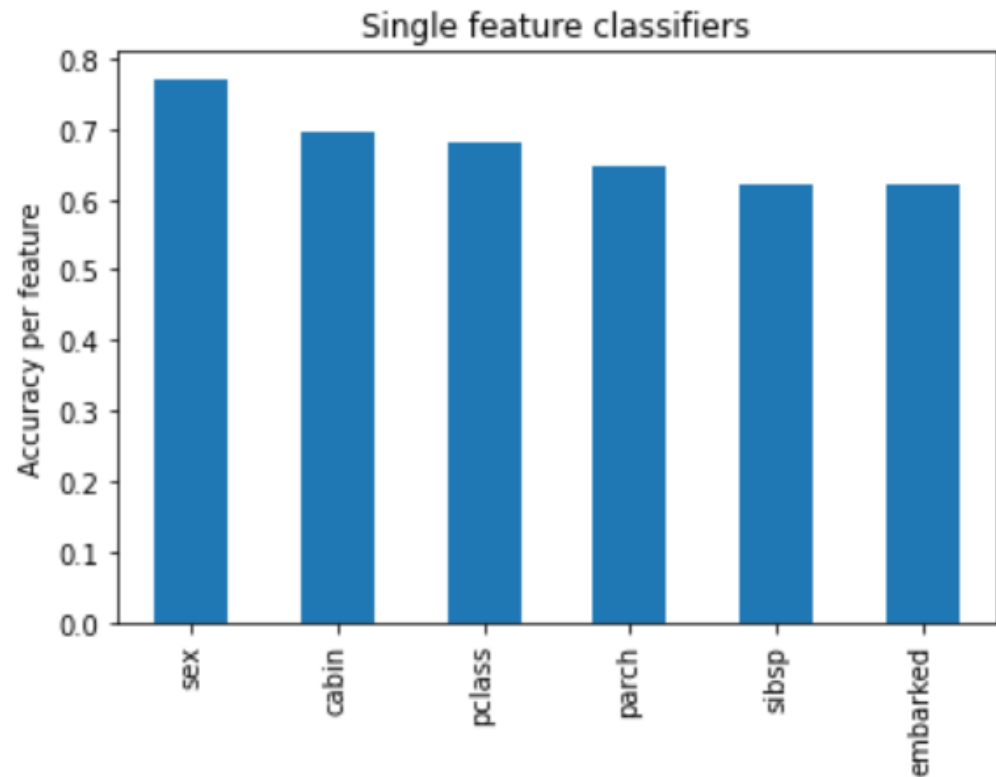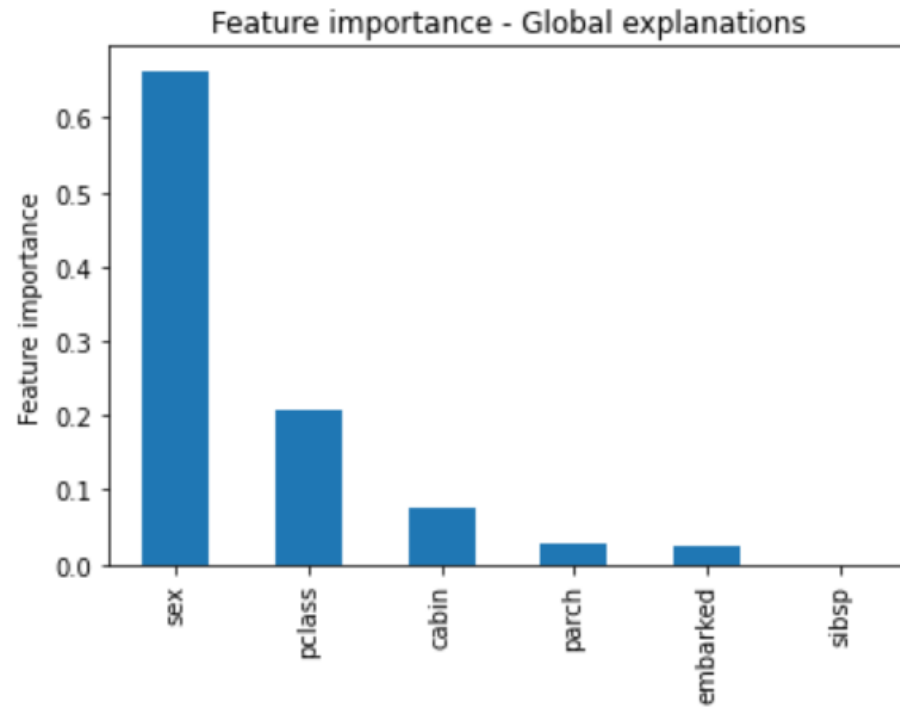
Global vs Local explainability

- **Global explainability**: derived from the loss function.

- **Local explainability**: given by the contribution of each feature to the final output.

Multicolinearity

- Multicolinearity will mask the importance of the features.

- If 2 features are identical, one will be selected and the other one ignored.

- Partially collinear features will show reduced importance compared to the importance derived from a model without its collinear counterparts.

Multicolinearity

Feature importance - Global explanations

Single feature classifiers

THANK YOU

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