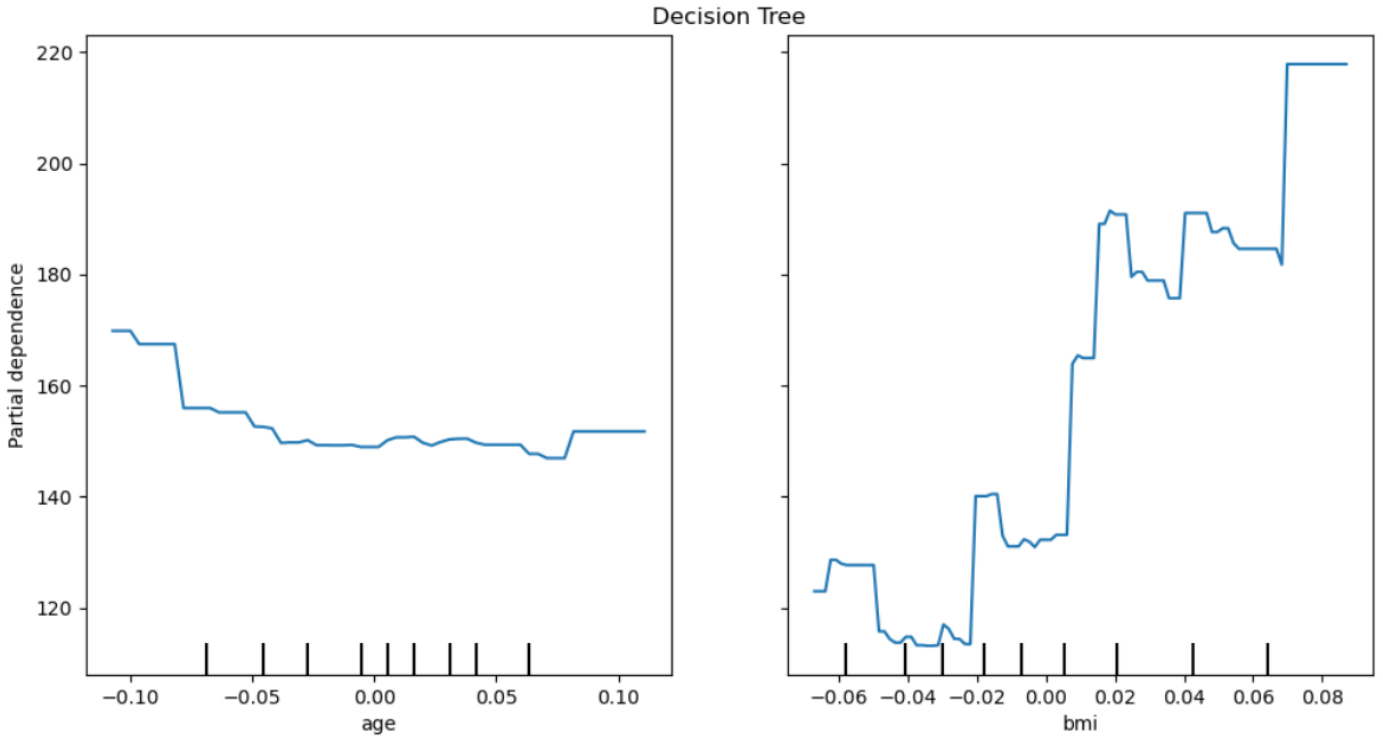
Partial Dependence Plots

Partial dependence plots (PDP)

Post-hoc interpretability method	• Used AFTER training the machine learning model
Global interpretation	• Analyses the relationship between feature and target in the context of a full dataset
Model agnostic	• Especially useful for opaque estimators

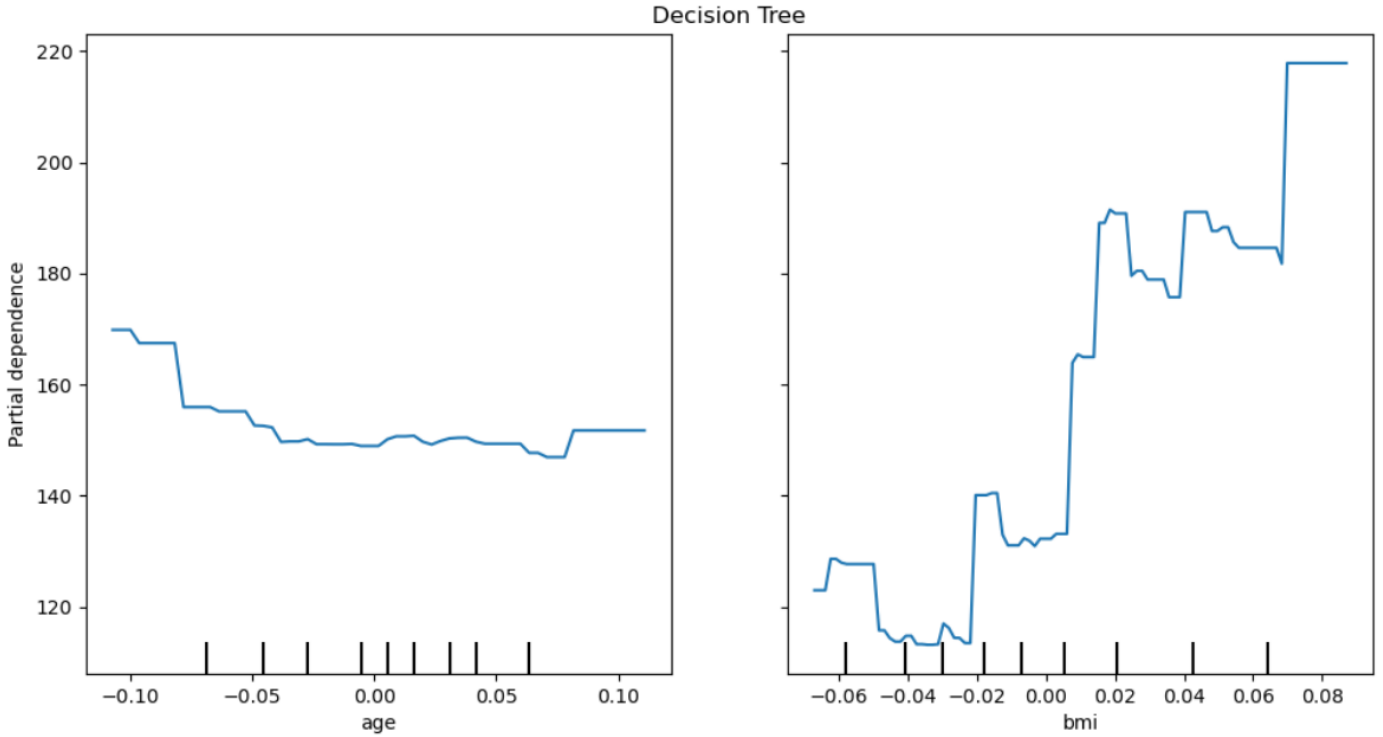
PDP is a visual tool



https://scikit-learn.org/stable/auto_examples/miscellaneous/plot_partial_dependence_visualization_api.html

Plots the **average prediction** value, given the values of a predictor.

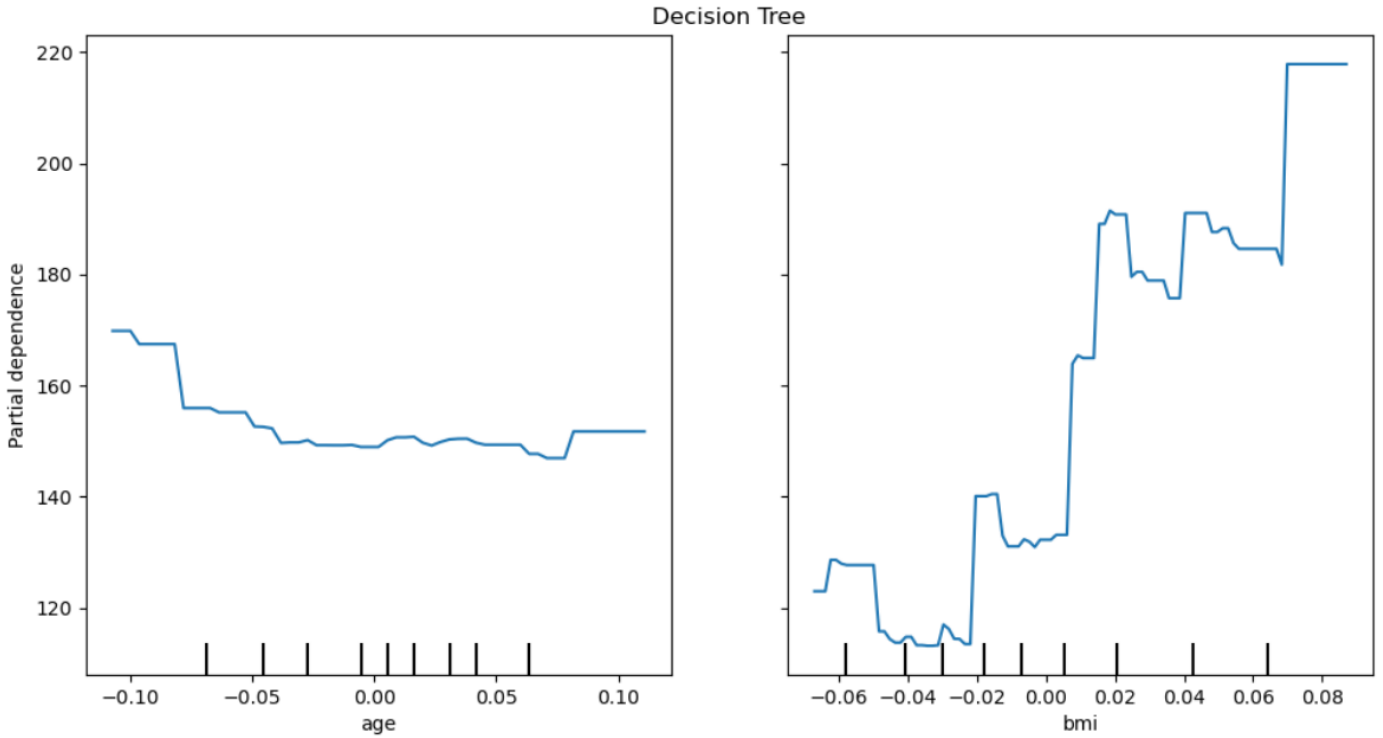
PDP is a visual tool



Show if relationship between feature and target is linear, monotonic or something else.

https://scikit-learn.org/stable/auto_examples/miscellaneous/plot_partial_dependence_visualization_api.html

PDP is a visual tool



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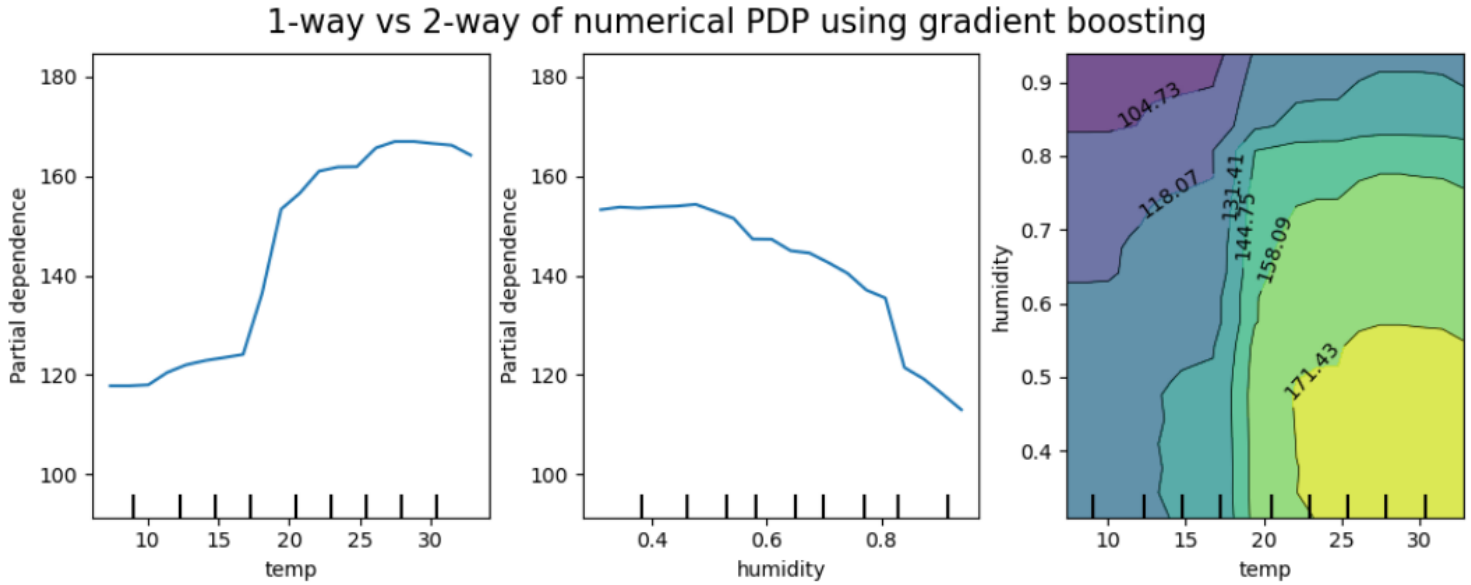
Realistically, it can only be used to examine a handful of features.

It does not provide an "importance" value.

1-way and 2-way PDP



1-way: change in target value partially dependent on the predictor value.

2-way: also show the interaction between the features.

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

PDP - assumptions

Features are not correlated.

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THANK YOU

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