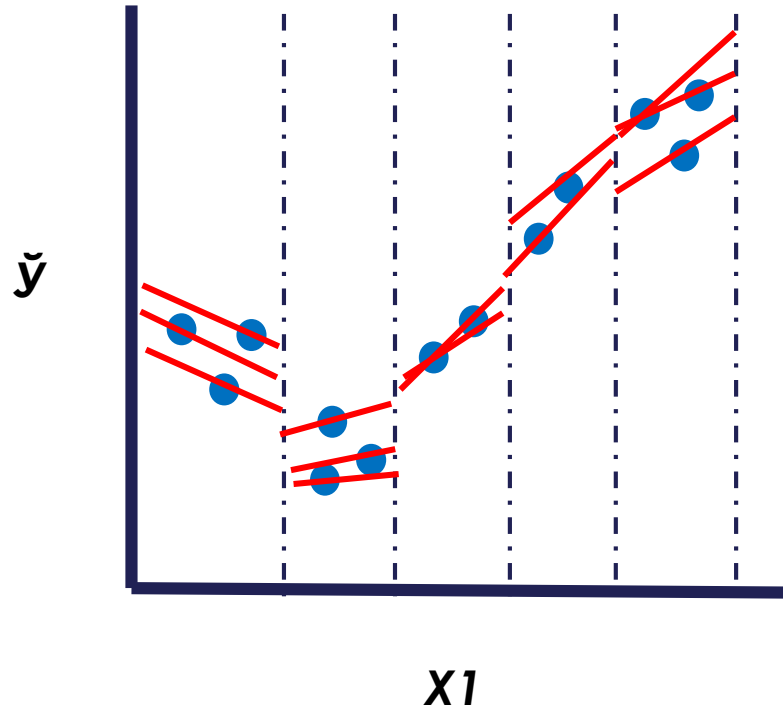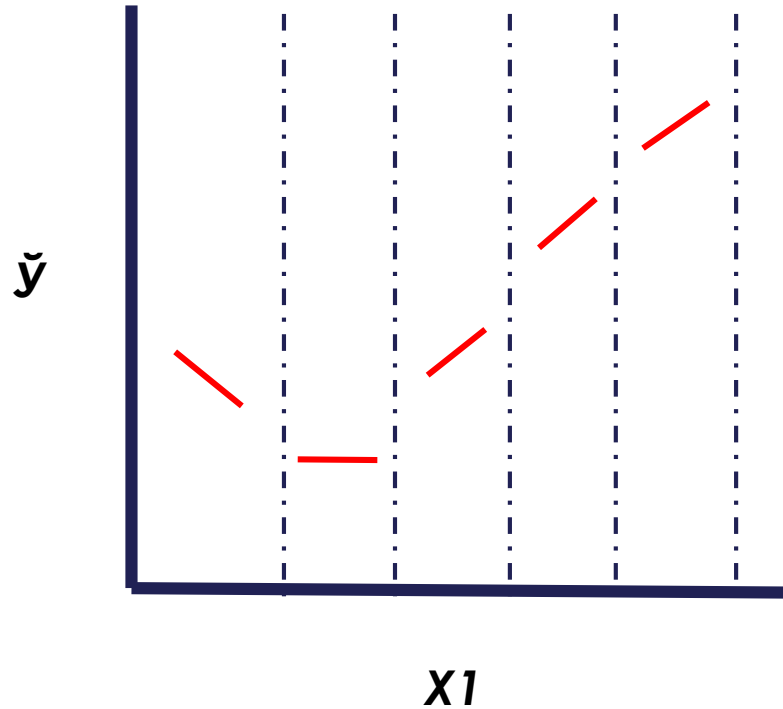# Accumulated local effects

Intervals

ALE – Estimation

Within each interval, the ALE estimation is linear.

The ALE estimation over several intervals, is then a linear approximation of the real, "unknown" function.
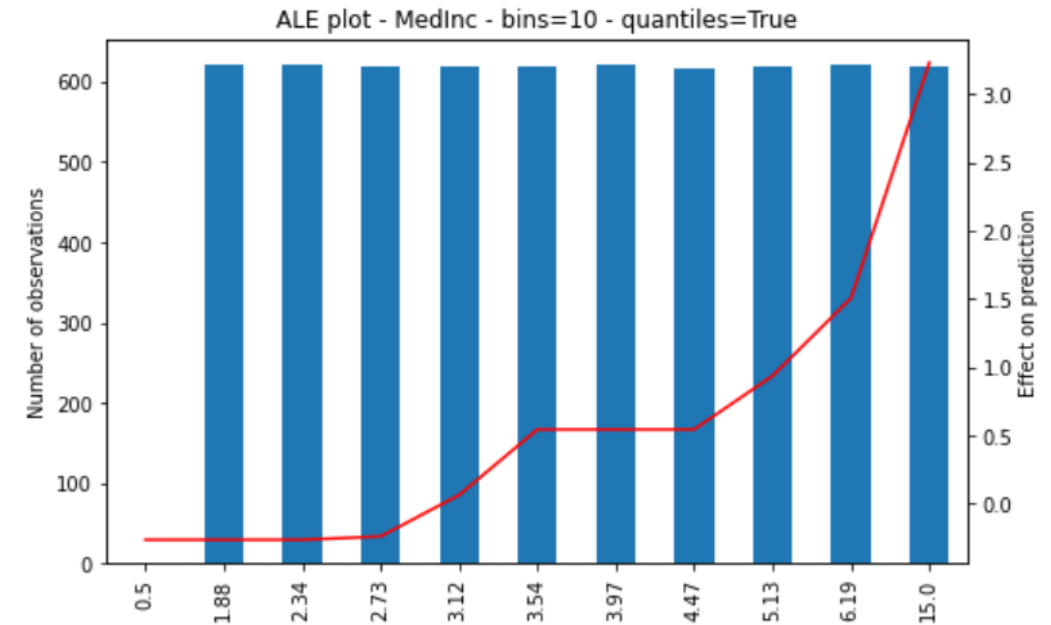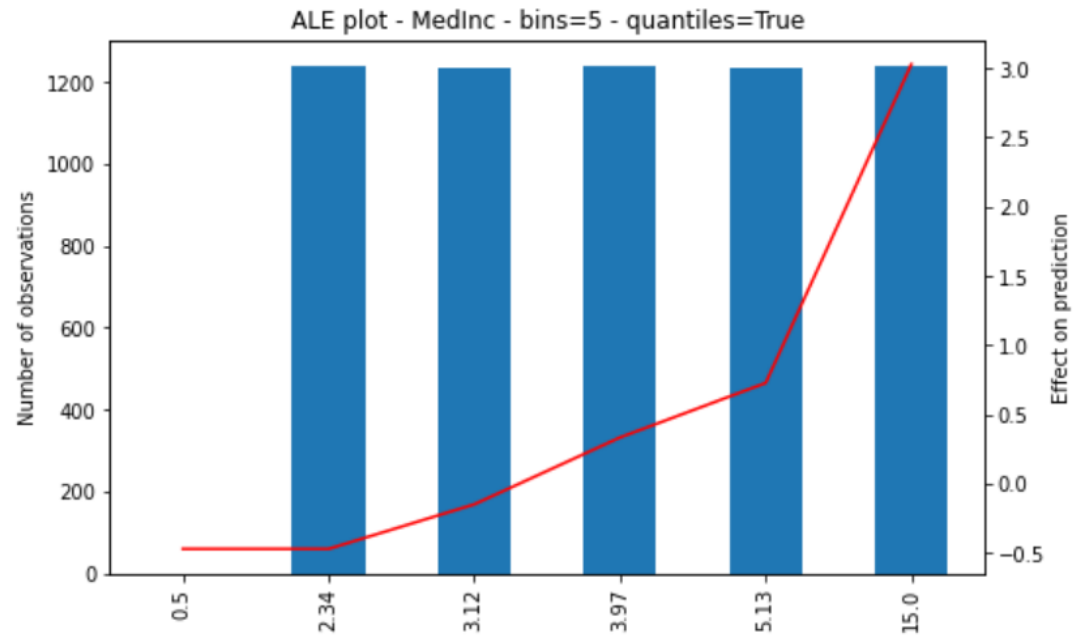
ALE – Estimation

The smaller the interval (the greater the number of intervals), the better the approximation.

For a stable or trustworthy approximation, we should have enough observations within each interval.
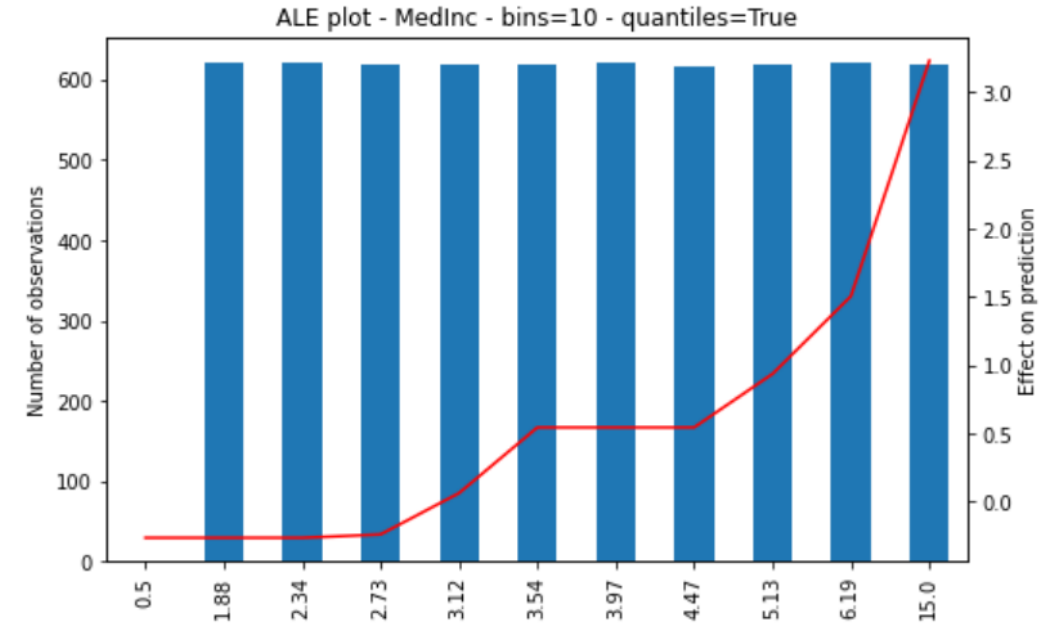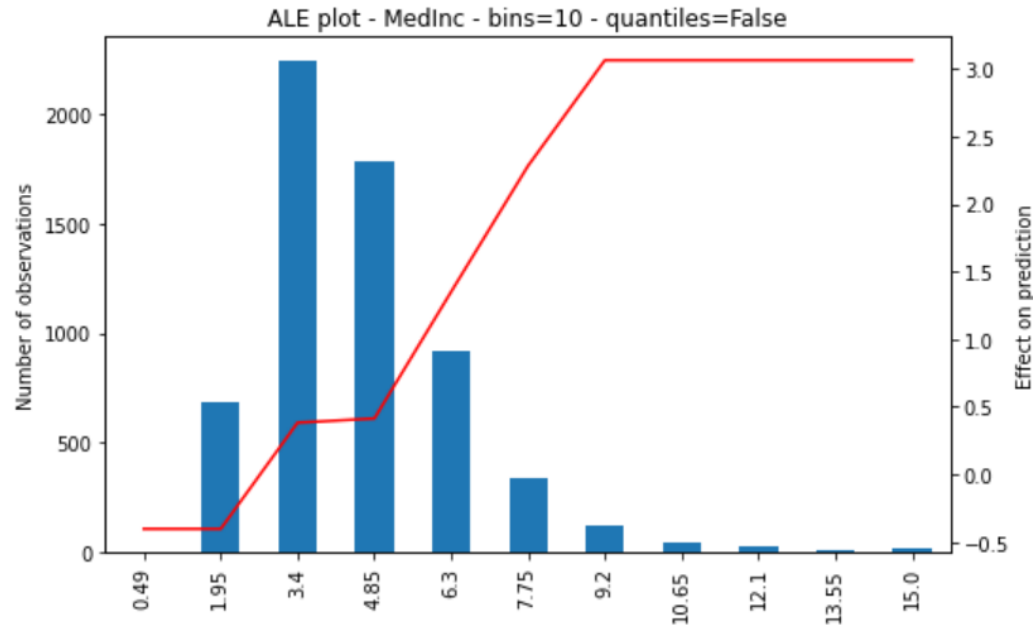
Interval effect

More intervals helps us better understand the shape of the ALE distribution.

More intervals better explain the effect of the variable on the prediction.

Interval effect

How we create those intervals also affects the ALE distribution.

If we use equi-distant plots, we can't trust higher values of the function.

If we use quantiles, we collapse greater values with smaller ones.