

Why only 1.5 times the IQR? Why not any other number?

The interquartile (IQR) method of outlier detection uses 1.5 as its scale to detect outliers because it most closely follows Gaussian distribution. As a result, the method dictates that any data point that's 1.5 points below the lower bound quartile or above the upper bound quartile is an outlier.

The number 1.5, hereafter scale, clearly controls the sensitivity of the range and hence the decision rule. A bigger scale would make the outlier(s) be considered as data point(s), while a smaller one would make some of the data point(s) be perceived as outlier(s). And we're quite sure, none of these cases is desirable.