Why we use 1.5 multiply with IQR in outliers?

It comes under Gaussian Distribution .Based on Gaussian Distribution the whole data lies within 3 standard deviation (<3).

Standard Deviation 3 is very important in this calculation

Let's calculate the IQR decision range in terms of standard deviation

First we taking scale=1

Q1-1 *(Q3-Q1) using this formula.

We get a value 2.025 .This make the decision range too exclusive so it make too much outliers. So it is not applicable

Then we take scale=2

Using the same formula

We get a value 3.375 .This make the decision range too inclusive so it make too fewer outliers. So this also not applicable .

Then we take scale=1.5

Using the same formula

We get a value 2.7.This make the decision range is closet to the Gaussian distribution ,so we consider this for outlier detection .

Any other doubt refer this link :

Why "1.5" in IQR Method of Outlier Detection? | by Shivam Chaudhary | Towards Data Science