Let's assume we read from the sensor $n$ times and we got the values $x_1, x_2, ..., x_n$. We don't know which of them is accurate and which of them isn't, but it is safe to assume that the measures in the middle of the series are more likely to be accurate than those in the edges.

Let us take the 10% of the sample from the middle of the series (that is $x_{0.45n}$ to $x_{0.55n}$) and assume that most of them are accurate. Mark the subset's mean and stdev as $\mu$ and $\sigma$ respectively.

Now assume that all the **accurate** $x_i$ come from normal distribution, that is $x_i \sim Norm(\mu, \sigma^2)$.

Define a threshold $\epsilon$ that typically should be about 0.05, and say that for each $i \in \{1, ..., n\}$ , $x_i$ is accurate if and only if $Pr(x_i) \geq \epsilon$ (The probability to get $x_i$ accourding to the normal distribution density function). if $Pr(x_i) < \epsilon$ we say that $x_i$ is **inaccurate** result and thus we will exclude it from our average result.