

Date

BOOTSTRAP OF CI

Sample statistics like median and others are also useful information for the population by stderr alone cannot help us with that,

therefore; Bootstrap is a method to construct confidence intervals for any sample statistic using resampling of sample data set.

→ Bootstrap is essentially uniform random sampling with replacement on the sample of size N .

steps ^{or n (i.e. size of original sample)}

- ① Draw 10^{\uparrow} values randomly to generate another sample of same size.
- ② Repeat the process to get at least 6 bootstrap samples.
- ③ Sort the bootstrap sample and calculate median from samples each individually:
odd: $\rightarrow (n+1)/2$ even: $\rightarrow \frac{\text{value at } n/2 + \text{value at } n/2 + 1}{2}$
- ④ Calculate the mean of all the median values.
Calculate std and variance
- ⑤ Draw 95% CI. (using Z dist).