Discussion Forums

Get help and discuss course material with the community.

THIS WEEK'S FORUM

Week 2

Discuss this week's module: Statistical Inference.

2 threads · Last post 41 minutes ago

Go to forum

Forums | All Threads | Search

← All Threads

Confidence intervals and credible intervals

Herbie Lee Staff · 17 days ago

Frequentist confidence intervals have the interpretation that "If you were to repeat many times the process of collecting data and computing a 95% confidence interval, then on average about 95% of those intervals would contain the true

DESCRIPTION

Welcome to the course discussion forums! Ask questions, debate ideas, and find classmates who share your goals. Browse popular threads below or other forums in the sidebar.

Help Center

parameter value; however, once you observe data and compute an interval the true value is either in the interval or it is not, but you can't tell which." Bayesian credible intervals have the interpretation that "Your posterior probability that the parameter is in a 95% credible interval is 95%." Under what circumstances would you prefer a frequentist confidence interval, and when would you prefer a Bayesian credible interval?

0 Upvote · Follow 0 · Reply to Herbie Lee

Earliest **Top** **Most Recent**

CC

Claude Chaunier · 7 days ago · Edited

To me frequentist confidence intervals look like Bayesian credible interval that have not been fully worked out. For example, if you want to compute confidence intervals for the obvious parameter of a Bernouilli process, you have to establish a procedure (before getting some data) that should tell you how to compute the confidence intervals once you'll get the data. To get it right, you have to consider the whole range of possible values. You may have some prior knowledge that the range is smaller than [0, 1]. You also have to distribute some weight on the possible values according to some prior belief, and most often frequentists ignore that and use a uniform distribution without seeing it for what it is.

0 Upvote · Reply

MODERATORS


KS


Learn more about becoming a Mentor

Forum guidelines >

JW

Jianhong Wang · 7 days ago

I prefer a Bayesian credible interval for all the circumstances.

0 Upvote · Reply

상언 박 · 6 days ago

Before experiments and I want to test my accuracy with not happen, I will try to use a Bayesian credible interval. But after having many experience on the assignment or I want to prove my happened assignment, I prefer a frequentist confidence intervals.

0 Upvote · Hide 1 Reply

상언 박 · 6 days ago

Oh my god, I didn't understood and had a perfectly different ideas of those. Sorry. When I use a Bayesian credible interval is to want to prove my data. Suppose I want to know the prob of A who will be next president. At that time, I use a Bayesian credible interval to know the prob of A over 50%. In the other hand, when I use a confidence intervals is to measure how much my system will have a lose. Suppose a probability of my factory's success of building a car .99. and company want to how much money I lose during 1 years. At that time, we use a confidence intervals to calculate the lose.

0 Upvote

SD

Reply

Reply

王

王怡方 · 6 days ago

always Bayesian

0 Upvote · Reply

GK

Gautam Karmakar · 6 days ago

When there is option to repeat experiments on sample data many times and we need definite of answer rather a probabilistic outcome of each possible outcome, we will use frequentest approach, rest of the case I will use Bayesian as it is most able to explain uncertainty of outcome.

0 Upvote · Reply

MK

Michał Koziarski · 4 days ago

I'd prefer confidence interval when experiment can be repeated as many times as necessary, credible interval otherwise.

0 Upvote · Reply

ND

Nathan Desdouits · 2 days ago

I would prefer a frequentist confidence interval if I know the value of the parameter beforehand and I want to know the probability the data is sampled from that particular distribution.

I would prefer a Bayesian credible interval if I observe data and want to have a range estimate of the parameter given this data.

0 Upvote · Hide 1 Reply

ND

Nathan Desdouits · 2 days ago

As an example of when frequentist confidence interval is prefered, say I have a factory that I know produce lightbulbs that break after 100 days of (correct) utilisation on average, with a standard deviation of 10 days. A client comes and says he bought 10 lightbulbs and they all went down after only 50 days of usage. I would use frequentist confidence interval to show with N% confidence that his lightbulbs couldn't come from my factory - he either misused them or bought them from a scam.

1 Upvote

SD

Reply

Reply

RS

Raja Sekhar · 2 days ago

kkkkkkkkkjjjjj

0 Upvote · Hide 1 Reply

RS

Raja Sekhar · 2 days ago

Sorry for the above comment. that was a mistake.

My own view is he bayesian credible intervals are far more intuitive to understand and apply, especially faced with making decisions in the ace of uncertainty. I have been racking my brains to imagine circumstances where where confidence intervals can be more usefeul but couldn't come up with any.

0 Upvote

SD

Reply

Reply

TY

Tomohiro Yoshikai · a day ago

If I can't collect another data any more (i.e. under the condition of the data sets cannot be changed any more), I prefer to use a frequentist confidence interval. On the other hand, if I can collect another

data in the future, I prefer to use a Bayesian credible interval, because I can modify the credible interval by using another data sets.

0 Upvote · Reply

Vimos Tan · a day ago

Confidence intervals works when you need high precision, credible intervals works when you need high recall.

0 Upvote · Reply

Stephen Kelley · 20 hours ago

frequentist confidences level would be preferred when it is practical to repeat the process many times and a Bayesian when it is not

0 Upvote · Reply

FV

Fernando Pay Vázquez · 41 minutes ago

0 Upvote · Reply

1

SD

Reply

Reply