Response to Esha Bhattacharya

by Shengdong Li

22 May 2020

1 Intro

Hello Esha! I just first wanted to say that I thought your lesson was very in-depth and easy to understand. Statistics has never been my strong suit and I never had fun learning it, but your explanations were well thought out and illustrated with examples.

That being said, I wanted to put some of your explanations in my own words, and ask some questions concerning where some of the real-life applications of some of these problems would be. Could you correct me if I'm wrong?

2 Probability Functions

Probability functions are only proabability functions if their integral over a specified interval adds up to 1. Using this property, the variables existing in probability functions can be solved by setting the entire integral equal to 1. You can also then use the completed probability function to calculate the probability of an event occuring between a set of numbers, before a number, or after a number.

Then there are specific types of probability functions, like exponential probability functions, and especially normal density functions, which have some exciting properties in regards to the mean and standard deviations.

3 Questions

One question that I had while reading your post was that you mentioned exponential probability density functions being used to caclulate the amount of time between events, or waiting times. I found this really interesting, but was wondering exactly *what* the waiting times or time between events were for. Could you perhaps provide a real-life example as to when they are used, or a specific word problem where they're applicable?

4 Conclusion

Anyways, thank you for posting your initial post in such an easy to understand format, as it was enjoyable to read through.

Cheers,
Andy Li