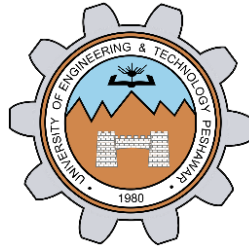


ASSIGNMENT #2



Fall 2021

Data Analytics

Submitted by: **Shah Raza**

Registration No.: **18PWCSE1658**

Class Section: **B**

“On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work.”

Student Signature: _____

Submitted to:

Engr. Naina Said

November 29, 2021

Department of Computer Systems Engineering
University of Engineering and Technology, Peshawar

"Correlation does not imply causation". What does this phrase mean? Explain. Find some instances from the history where correlation has been mistaken for causation and report in your assignment.

Answer:

“Correlation does not imply causation” simply means that just because two variables have a correlation does not mean that change in one variable is causing the change in other variable. There may be a third factor involved that is causing a change in both the variables. For example, if someone says that children who get tutored get worse grades than children who do not get tutored imply that tuition causes bad grades, which is completely not true. If we think about it, we can see what the actual reason for this is. Good students don’t need extra tuition because they are already performing good. Only the students who are not performing good try to get extra tuition and most of the times that does not help either. So, we can say that it’s not the tuition that is causing bad grades but the bad grades are causing the need for tuition.

Mistaken Instance of causation:

I know the following article was written just for fun but it can be used as an example for “correlation does not imply causality”. The article states that whenever Ramiz Raja comes on the commentary, Team Pakistan bats very bad and they most certainly lose wickets. Some guy (mentioned in the article) statistically proves this point by taking a sample of matches. But the truth is, there are other factors involved in this, like Ramiz comes for commentary during the final overs where batsmen need to hit every ball for boundary which increases the probability of them hitting a bad shot. So, basically it is the batsmen playing a bad shot or bowlers bowling a good ball that causes the fall of wickets and not Ramiz Raja’s commentary.

Link to the article:

[Twitter user mathematically ‘proves’ Pakistan bat worse when Ramiz Raja is on commentary](#)