

The Concept of Neurostatistics as a Neuroscience

Authors : Igwenagu Chinelo Mercy

Abstract : This study is on the concept of Neurostatistics in relation to neuroscience. Neuroscience also known as neurobiology is the scientific study of the nervous system. In the study of neuroscience, it has been noted that brain function and its relations to the process of acquiring knowledge and behaviour can be better explained by the use of various interrelated methods. The scope of neuroscience has broadened over time to include different approaches used to study the nervous system at different scales. On the other hand, Neurostatistics based on this study is viewed as a statistical concept that uses similar techniques of neuron mechanisms to solve some problems especially in the field of life science. This study is imperative in this era of Artificial intelligence/Machine leaning in the sense that clear understanding of the technique and its proper application could assist in solving some medical disorder that are mainly associated with the nervous system. This will also help in layman's understanding of the technique of the nervous system in order to overcome some of the health challenges associated with it. For this concept to be well understood, an illustrative example using a brain associated disorder was used for demonstration. Structural equation modelling was adopted in the analysis. The results clearly show the link between the techniques of statistical model and nervous system. Hence, based on this study, the appropriateness of Neurostatistics application in relation to neuroscience could be based on the understanding of the behavioural pattern of both concepts.

Keywords : brain, neurons, neuroscience, neurostatistics, structural equation modeling

Conference Title : ICASDA 2024 : International Conference on Applied Statistics and Data Analytics

Conference Location : Boston, United States

Conference Dates : April 22-23, 2024