



Análisis de datos funcionales aplicado en electroencefalogramas: agrupamiento por k-medias funcional [

2017

text (article)

Analítica

Technological developments have made it possible for researchers in many areas to have large volumes of information for the same individual. Usually these data can be represented through curves or in general functions. From this arises a new field of study in statistics called Functional Data Analysis (FDA). In the FDA the basic unit of information is the complete function, rather than a set of values (Ramsay & Dalzell 1991). The usual statistical methods have been adapted to this situation, in particular the analysis of functional conglomerates by the k-means method has been developed. Since the brain activity responds to a wave function of the neuronal charge over time, the opportunity arises to apply the FDA to this type of record. The objective of this work is to describe the applicability of the functional cluster analysis by the k-means method to classify brain activity in Norvegicus Wistar rats. The conversion of the registers into wave functions was carried out using Fourier bases, which were analyzed according to the methodology developed in (Yamamoto 2012) and a simple correspondence analysis between the clusters and the phases of activity manually recorded in the hypnogram. The obtained conglomerates make a consistent unsupervised categorization, especially with respect to the attributes of frequency and regularity of the waves

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electronic resource]

Editorial: 2017

Tipo Audiovisual: electroencefalografía (EEG) datos funcionales series de Fourier aprendizaje automático k-medias funcional análisis de componentes principales funcionales Electroencephalography functional data analysis Fourier series machine learning functional k-means functional principal component analysis

Documento fuente: Comunicaciones en Estadística, ISSN 2339-3076, Vol. 10, N°. 1, 2017, pags. 129-144

Nota general: application/pdf

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Lengua: Spanish

Enlace a fuente de información: Comunicaciones en Estadística, ISSN 2339-3076, Vol. 10, N°. 1, 2017, pags. 129-144

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