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DATA MINING TO ESTIMATE THE EFFECT OF CHANGES OF WEATHER ON THE ONSET OF STROKE AND MYOCARDIAL ISCHEMIA

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The weather is known to affect human health. Facing global climate change and the coming of aging populations, the relations between weather and health are of increasing interest. Many studies have shown that changes in weather have been associated with the incidence of stroke and ischemic heart disease. However, the links still remain unclear. While the auto-regression models have been used so far, new technologies are urgently needed for the solution of the links. The aim of this presentation is to propose new approaches based on a new trend of informatics. For example, the "Entropy" is a main notion representing the amount of information. This notion will be presented as a useful method to determine which meteorological element (such as temperature) is associated with the incidence of disease. The "association analysis" is useful to give light to a new pattern of the relation of weather and health. Other methods, such as "Self-organized map" or "Hidden Markov Model" will be also presented. "Self-organized map" is one of well reached technique of data mining. It can be used for forming overviews of multivariate data sets and for visualizing them on a graphical map displays. "Hidden Markov Model" is a general statistical modeling technique that describes a probability distribution over an infinite number of possible sequences.

Biography

Hiroshi Morimoto was graduated from the Mathematical Institute of Nagoya University. He was first employed by Nagoya University as a pure Mathematician. Then he explored many fields like a "rolling stone", through the field of global climate change and the analysis of big data. Finally he reached the field of bioweather, working as a professor of the same university.

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