

Use of Data Mining Techniques to Detect Medical Fraud in Health Insurance

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Abstract

The health insurance claims application case the inspection usually relies on experts' experience for verification and experienced personnel in charge for checking. However, due to the heavy work load and the insufficiency of manpower and experience, the ratio of miscarriages of justice is high, leading to improper settlement of claims and the waste of social resources. This paper takes advantage of data-mining technology to design models and find out cases requiring for manual inspection so as to save time and manpower. Six models are designed in this paper. By the analysis of the 20/80 principle and the coverage and accuracy ratio, a great number of periodic data (over 2 million records) are fed back to the data-mining models after repetitive verification. Also, it is discovered that to integrate the data-mining technology and feed back to different business stages so as to establish early warning system will be an important topic for the health insurance system in hospital's EMR in the future. Meanwhile, as the information acquired by data-mining needs to be stored and the traditional database technology has limitations. Next time, this paper explores the ontology framework to be set up by semantic network technology in the future in order to assist the storage of knowledge gained by data-mining.

Keywords: data mining, health insurance claims, medical fraud cases

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