

營建工程專利技術功能模型自動化分析之研究

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摘要

More and more organizations have recognized the importance of technology innovation to their product competitiveness in the market. Patent databases, among the many technological repositories, have stored the most advanced and economically valuable technological information. Such information is not only useful for planning the technological development strategies, but also a precious source of technological know-hows, which can be adopted in developing innovative technologies. However, due to the difference of training and specialty, technology innovators usually construct the technology function model differently. As a result, deriving a consistent and reliable function model of a patented technology becomes an important issue in effective utilization of patent information. To tackle the abovementioned problem, this paper presents a text mining method for automated analysis of the function model for a patent. Not only the model but also a prototype computer program for automated analysis of a function model is developed to test the feasibility of the proposed method. After a case study of fourteen patents, it is found that the proposed method is able to improve the analysis duration by 56.2% and achieve a analysis accuracy rate from 84.6~86.0% (using 100% as perfect accuracy) while compared with the results of manual analysis method. It is concluded that the proposed computer aided text mining method for patent function model analysis is able improve the efficiency and consistency of the result with a high accuracy. The proposed method can be employed by the innovators of construction and other technology domains in analyzing the patented technology documents for construction engineering and other areas.

關鍵字：patent document, function model analysis, automated analysis, construction technology.