An Application of Adaptive Neuro-Fuzzy Inference Systems-Constructing a Personalized Image-Text Shooping Engine

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ABSTRACT

Lots of commercial websites try to increase the profits of websites and to ensure the trend of clients ’ services by analyzing users ’ information. To fulfill the purpose, a good professional personalized shopping engine must automatically extract most relevant features of commercial web pages, and then provide useful and favorable retrieval information to users. However, as we know, there seems to be none of professional personalized shopping engine on Internet. Thus, it is urgent to design such a kind of personalized shopping engine for online shopping. A prototype Image-Text shopping engine was developed by incorporating the technique of Adaptive Neuro-Fuzzy Inference Systems (ANFIS). The proposed shopping engine can personalize the retrieval information of users through analyzing and learning both users ’ browsing records and feedbacks of scoring web pages. Experiments over three weeks were designed to verify the validation and efficiency of the personalization mechanism. First, browsing records of fifty users were used to construct the default membership functions for any native user. Following that, another forty-six users subjectively criticized the scoring results of web pages by the default membership functions, and then personalized their own scoring mechanism. At last, questionnaires about the personalized results were evaluated. Experiments illustrated that the personalization mechanism work well for most users. We hope that the proposed personalized shopping engine is useful to promote online shopping.

Keywords : Personalized shopping engine, Adaptive Neuro-Fuzzy Inference Systems (ANFIS), online shopping, E-commerce

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