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Ubiquitous clinic recommendation by predicting a patient's preferences

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**UBIQUITOUS CLINIC RECOMMENDATION
BY PREDICTING A PATIENT'S PREFERENCES****Tin-Chih Toly Chen**

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ABSTRACT

Accurately identifying users' preferences for different service locations is sometimes difficult for a mobile application because of the limited options that can be provided by a cell phone in addition to the users' unwillingness or inability to conveniently express their preferences. However, such information, if precisely determined, can considerably enhance the effectiveness of the mobile application. On the basis of this concept, this study modified the existing *fuzzy weighted average (FWA) nonlinear programming (NLP)* approach by incorporating a mechanism of predicting a patient's unknown preferences for different nearby clinics to improve the performance of *ubiquitous clinic recommendation*. The proposed methodology was applied to a small region in Taiwan, and the experimental results confirmed its superiority over four existing methods in effectively improving the successful recommendation rates for patients in both training and testing groups. Comparing the results of the proposed methodology with those of the original FWA-NLP approach revealed that the proposed methodology has an advantage because of the mechanism of predicting patients' unknown preferences.

Keywords: Clinic recommendation, fuzzy weighted average, location-aware service, nonlinear programming, ubiquitous.

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