



International Conference on Advanced Informatics for Computing Research

ICAICR 2021: **Advanced Informatics for Computing Research** pp 143–150

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High Utility Itemset Mining Using Genetic Approach

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Conference paper | [First Online: 25 June 2022](#)

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Abstract

Frequent Itemset Mining(FIM) aims to generate itemsets having their frequency of occurrence not lesser than minimum support specified by the user. FIM does not consider the itemset utility which is the it's profit value. High-utility itemset mining(HUIM) mines high-utility itemsets(HUI) from data. HUIM is a combinatorial optimization. With HUIM algorithms, the time required to search increases exponentially with an increasing number of transactions and database items. To address this issue an efficient algorithm to mine HUIs is proposed.

The proposed algorithm uses a compact form of chromosome encoding by eliminating the itemsets with low transactional utilities. The algorithm employs methodology of self mutation to reduce generation of unwanted chromosomes.

Experimental results have shown that the proposed algorithm finds HUIs for a given threshold value. The proposed algorithm consumes less time as compared to another HUIM algorithm HUIM-IGA.

Keywords

High utility itemset mining **Frequent Itemset Mining**

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Cite this paper

Almeida e Aguiar, T., Khan, S., Naik, S.B. (2022). High Utility Itemset Mining Using Genetic Approach. In: Luhach, A.K., Jat, D.S., Hawari, K.B.G., Gao, XZ., Lingras, P. (eds) Advanced Informatics for Computing Research. ICAICR 2021.

Communications in Computer and Information Science, vol 1575. Springer, Cham. https://doi.org/10.1007/978-3-031-09469-9_13

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DOI

https://doi.org/10.1007/978-3-031-09469-9_13

Published	Publisher Name	Print ISBN
25 June 2022	Springer, Cham	978-3-031-09468-2

Online ISBN	eBook Packages
978-3-031-09469-9	Computer Science
	Computer Science (R0)

Not logged in - 103.21.83.214

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