

A Survey on Association Rule Mining for Enterprise Architecture Model Discovery

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Appendix (available online via <http://link.springer.com>)

Appendix A: Algorithm Comparison

Table 8 The latest and most cited algorithms for general ARM

Algorithms	Publication/Year	Surpassed Algorithms
General Frequent Pattern		
Apriori	Agrawal et al 1993	It was seminal, not comparable with any other previous ones.
FP-Growth	Han et al 2000	Apriori, according to Luna et al 2019. FP-Growth performed better than Apriori and even better than Apriori multi-threaded (Lin et al 2020).
dECLAT	Zaki and Gouda 2003	Apriori, FP-Growth, ECLAT (Zaki 2000), according to Luna et al 2019.
LCM	Uno et al 2004	According to Luna et al 2019, the winner of FIMI'04.
MPSoC	Sinaei and Fatemi 2018	Compared with a previous version, according to authors.
NOV-CFI	Phan 2018	According to the author, CHARM (Zaki and Hsiao 2002), NAFCP (Le and Vo 2015).
MTARM (MT-Eclat)	Yildirim Taşer et al 2020	The author compared different versions of the algorithm. The MT-Eclat version performed better than MT-FP-growth, which was better than MT-Apriori.
EFPT-IKD	Liu et al 2022	According to the author, FUP (Cheung et al 1997), PARMTRD (Liu et al 2018).
Temporal or Sequential Pattern		
LA-FEMH	Ao et al 2019	PEM (Ao et al 2019).
Tax et al Algorithm 1 e 2	Tax et al 2018	
AprioriAll	Agarwal et al 2000, cited by Gan et al 2019	Not compared with other algorithms.
HBST	Aggarwal and Toshniwal 2018	Compared by the authors with an adaptation of Apriori.

Table 9 The latest algorithms focused on quality and utility

Algorithms	Year	Surpassed Algorithms
Rising the Accuracy, Quality, and Utility of Rule		
HUI-PR	Wu et al 2019	D2HUP (Liu et al 2012) and EFIM algorithms (Zida et al 2015)
LA-FEMH+	Ao et al 2019	Improved version of the LA-FEMH algorithm by the same authors.
BaCARO-II	da Cunha et al 2018	It is ARM inspired by GA (Genetic Algorithm) but not compared to other ARM, but rather to other GAs.

Table 10 The last algorithms focused on parallel, multi-thread and distributed computing

Algorithms	Year	Surpassed Algorithms
Parallel and Multi-Thread		
MPSoC	Sinaei and Fatemi 2018	
Kavosh	Barkhordari and Niamanesh 2018	FiDooop (Xun et al 2016), Sequence-Growth (Liang and Wu 2015)
GPU-SingleScan	Djenouri et al 2019, cited by Luna et al 2019	BigFIM (Moens et al 2013), PFP (Li et al 2008)
Distributed		
NOV-CFI	Phan 2018	
BIGMiner	Chon and Kim 2018, cited by Luna et al 2019	SPC (Lin et al 2012), PFP (Li et al 2008) , BigFIM (Moens et al 2013)
MRQAR	Martín et al 2018	PFP (Li et al 2008)
G3P-LSC	Padillo et al 2018, cited by Luna et al 2019	Apriori, Eclat, and thirteen other algorithms that were not mentioned in this literature review
FDM	Cheung et al 1996b, cited by Luna et al 2019	An Apriori version for the parallel mining by Agrawal and Shafer (1996)

Appendix B: Complete list of Papers Analyzed and Data Extraction

File Name	Description	URL
Part 1-articles export.xls	It contains the list of papers returned in the search bases and the result of the selection for RQ 1	https://figshare.com/s/194c10be9fe430b6821a
Part 1-data_extraction.xls	It contains the result of data extraction for RQ 1	https://figshare.com/s/004d1eadef32483aa2cb
Part 2-articles export.xls	It contains the list of papers returned in the search bases and the result of the selection for RQ 2	https://figshare.com/s/7d96ff7d44b581b063c3
Part 2-data_extraction.xls	It contains the result of data extraction for RQ 2	https://figshare.com/s/194c10be9fe430b6821a