



Future
Connect
Media

Machine learning Part E

Part of Future Connect Media's IT
Course

By Abhishek Sharma





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Topics to be covered:

- ECLAT
- Working of ECLAT

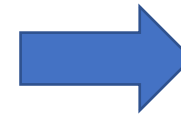
ECLAT

- The ECLAT algorithm stands for **Equivalence Class Clustering and bottom-up Lattice Traversal**. It is one of the popular methods of Association Rule mining.
- It is a more efficient and scalable version of the Apriori algorithm.
- While the Apriori algorithm works in a horizontal sense imitating the Breadth-First Search of a graph, the ECLAT algorithm works in a vertical manner just like the Depth-First Search of a graph.
- This vertical approach of the ECLAT algorithm makes it a faster algorithm than the Apriori algorithm..

Working of ECLAT

- The basic idea is to use Transaction Id Sets(tidsets) intersections to compute the support value of a candidate and avoiding the generation of subsets which do not exist in the prefix tree. In the first call of the function, all single items are used along with their tidsets. Then the function is called recursively and in each recursive call, each item-tidset pair is verified and combined with other item-tidset pairs. This process is continued until no candidate item-tidset pairs can be combined.

Transaction Id	Bread	Butter	Milk	Coke	Jam
T1	1	1	0	0	1
T2	0	1	0	1	0
T3	0	1	1	0	0
T4	1	1	0	1	0
T5	1	0	1	0	0
T6	0	1	1	0	0
T7	1	0	1	0	0
T8	1	1	1	0	1
T9	1	1	1	0	0



Item	Tidset
Bread	{T1, T4, T5, T7, T8, T9}
Butter	{T1, T2, T3, T4, T6, T8, T9}
Milk	{T3, T5, T6, T7, T8, T9}
Coke	{T2, T4}
Jam	{T1, T8}