

Konsep Aplikasi Data Mining

Assosiation Rules (2)

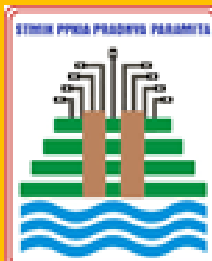
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SAP

- Latihan Asosiation Rules (apriori)
- Studi Kasus dengan menggunakan Jupyter Notebook

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Istilah dalam Apriori

- Dalam aturan asosiasi terdapat 3 macam pengukuran penting, yaitu Support, Confidence, dan Lift Ratio

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Support

- Support adalah pencarian jumlah transaksi yang mengandung item berbanding dengan total transaksi

$$\text{Support (A)} = \frac{\text{Jumlah Transaksi mengandung A}}{\text{Total Transaksi}}$$

support-A

- Sedangkan nilai support untuk 2 items bisa menggunakan rumus sebagai berikut :

$$\text{Support (A } \cup \text{ B)} = \frac{\text{Jumlah Transaksi mengandung A dan B}}{\text{Total Transaksi}}$$

support-AUB

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Confidence

- Confidence adalah nilai kepastian atau kuatnya hubungan antar item dalam aturan asosiasi

$$\text{Confidence} = \frac{\text{freq}(A, B)}{\text{freq}(A)}$$

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Lift Ratio

- Nilai ***lift rasio*** merupakan suatu ukuran dalam mengetahui kekuatan suatu aturan asosiasi. Adapun rumusnya sebagai berikut

$$Lift (A \Rightarrow B) = \frac{Confidence (A \Rightarrow B)}{Support (B)}$$

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Studi Kasus

- Download file excel di link
- <https://github.com/ekayuniar/datamining>

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Alert

- min_support: The minimum support of relations (float)
- min_confidence: The minimum confidence of relations (float)
- min_lift: The minimum lift of relations (float)
- min_length: The minimum number of items in a rule
- max_length: The maximum number of items in a rule

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Apriori in Pyhton

- Terlebih dahulu install apriori di anaconda
- Dengan perintah : pip install apyori
- Akan muncul seperti dibawah ini:

```
(base) C:\Users\Eka>pip install apyori
Collecting apyori
  Downloading apyori-1.1.2.tar.gz (8.6 kB)
Building wheels for collected packages: apyori
  Building wheel for apyori (setup.py) ... done
  Created wheel for apyori: filename=apyori-1.1.2-py3-none-any.whl size=5979
sha256=61978065365de6c525555aff934d75b08f593c3e273849198a58b85c511988a2
  Stored in directory: c:\users\eka\appdata\local\pip\cache\wheels\cb\f6\e1\5
7973c631d27efd1a2f375bd6a83b2a616c4021f24aab84080
Successfully built apyori
Installing collected packages: apyori
Successfully installed apyori-1.1.2

(base) C:\Users\Eka>
```

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Reference

- <https://analyticsindiamag.com/beginners-guide-to-understanding-apriori-algorithm-with-implementation-in-python/>
- <https://www.dataquest.io/blog/excel-and-pandas/>
- <https://belajarpython.com/2018/09/3-library-python-terbaik-untuk-data-science.html>
- <https://medium.com/edureka/apriori-algorithm-d7cc648d4f1e>
- <https://gist.github.com/famot/95e96424ecb6bf280f2973752d0bf12b>

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