**FREQUENT PATTERN MINING :**

**Turi Use case :** <https://wiki.csc.calpoly.edu/datasets/wiki/ExtendedBakery>

**Pattern mining algorithms** can be applied on **various types of data** such as transaction databases, sequence databases, streams, strings, spatial data, graphs, etc.

Pattern mining algorithms can be designed to discover **various types of patterns**: subgraphs, associations, indirect associations, trends, [periodic patterns](http://data-mining.philippe-fournier-viger.com/an-introduction-to-the-discovery-of-periodic-patterns-in-data/), [sequential rules](http://data-mining.philippe-fournier-viger.com/introduction-to-sequential-rule-mining/), lattices, [sequential patterns](http://www.philippe-fournier-viger.com/dspr-paper5.pdf), [high-utility patterns](http://data-mining.philippe-fournier-viger.com/introduction-high-utility-itemset-mining/), etc.

**APPLICATIONS :**

### **In Molecular Datasets** : frequent itemset mining, protein domain structure(analyzing domain co-occurrence within proteins), protein–protein interaction(mining for co-occurring domains between interacting proteins), gene expression, Mycobacterium tuberculosis (M. tuberculosis response to stress)

### <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4856181/>

* **For data streaming** : <http://ieeexplore.ieee.org/document/4659589/>
* Its application also encompasses **clustering, classification, software bug detection, recommendations**.
* The greatest utility of frequent pattern mining is as an *intermediate tool* to provide pattern-centered insights for a variety of problems.
* Discovering which products are frequently bought together in a supermarket, or how some products can influence the sale of other products.
* Applications in various domains(especially, Crime Pattern Mining) : <http://www.warse.org/pdfs/2014/ijacst05342014.pdf>

**USEFUL LINKS :**

<http://www.swiftiq.com/blog/discover-deep-insights-with-frequent-pattern-mining-fpm>

<http://data-mining.philippe-fournier-viger.com/introduction-frequent-pattern-mining/>