

# Kaggle Challenge

**Design a multi-class classifier to detect adulterant present  
in milk sample**

# Methods Used

- 1) Decision Tree ( Multi class )
- 2) SVM ( varying values of gamma and C )
- 3) Bagging classifier with SVM (got accuracy around 70).
- 4) Brew package in python. ( Specifically Ensemble method in brew.base )

(link brew - <https://github.com/viisar/brew> )

# Brew : Python Ensemble Learning API

- 1) Better than sklearn BaggingClassifier which uses a single base estimator .
- 2) On the other hand the Brew base Ensemble classifier can take multiple base estimators and combine them based on statistic metric.  
Ensemble Combination Rules->majority vote, min, max, mean and median.
- 3) Used on multiple SVMs with varying gamma and C.

# Final Submission

Final submission was most frequent value of all previous submissions which was also very efficient.

THANK YOU.