**Data Driven Methods for Finding Pattern Anomalies in Food Safety**

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**ABSTRACT**

The indigenous part of all living organisms in the world is food. As the world population increases, the production and consumption of food also increases. Since the population progresses in a rapid manner, the productivity of the food materials may not be sufficient for feeding all the people in the world.There rises the cause of food adulteration and food fraud. Adulteration is the process of adding a foreign substance to the food material which affects the natural quality of the food. As the amount of adulterants increases, the toxicity also increases. Machine learning techniques has been used previously to automate the prediction of food adulteration under normal scenarios. In this paper, we use different machine learning technique for finding food adulteration from milk data sets. This paper surveys the different concepts used in automating the detection of food adulteration and discusses the experimental results obtained by applying machine learning algorithms like Naive Bayes, Support Vector Machine (SVM),K- Nearest Neighbor (KNN), Artificial Neural networks (ANN), Linear Regres-sion, and Ensemble methods. The accuracy of the models ranged from 79% to 89%. Ensemble method outperformed other algorithms with an accuracy of 89% and Linear Regression showed least accuracy of 79%. Artificial Neural networks showed an accuracy of almost 87%. SVM and Naïve Bayes showed accuracy 84% and 80% respectively.

Front end: **HTML,CSS**

Back end: **PYTHON,ML**

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