**Sentiment Analysis using customers help Restaurants Improve Food Quality**

***Proposed Problem***

The main problem we aim to address is how restaurants can leverage customer reviews to identify areas for improvement in their food quality. While restaurants may receive feedback directly from customers, online reviews provide a larger sample size and more objective data. By analyzing the sentiment expressed in these reviews, we can determine which aspects of the food are most important to customers and where restaurants are excelling or falling short.[[1]](#endnote-1)

**Motivation**

Online reviews have become an essential part of the decision-making process for consumers when choosing where to eat. These reviews provide valuable insights into customer satisfaction and can help restaurants identify areas for improvement.[[2]](#endnote-2)

**Approach:**

We propose to use sentiment analysis techniques to analyze the Amazon Fine Food Reviews dataset and provide actionable insights for restaurants. Our solution will involve the following steps:

1. Data Preprocessing: Clean and preprocess the review text, including removing stop words, punctuation, and converting to lowercase.
2. Feature Extraction: Extract relevant features from the review text, such as n-grams and sentiment scores.
3. We will use tools like:
   * VADER (Valence Aware Dictionary and (Entiment Reasoner) - Bag of words approach
   * Roberta Pretrained Model from
   * Hugging face Pipeline

**Dataset Link**

https://www.kaggle.com/datasets/snap/amazon-fine-food-reviews

1. [↑](#endnote-ref-1)
2. [↑](#endnote-ref-2)