**Project Summary**

My goal was to help Small business gain insights by combining two Key AI tasks:

1.Extracting Major Themes from reviews using topic modelling

2.Understanding customer sentiment using sentiment analysis.

The tools begins with cleaning raw data, removing empty and null entries. And identifies the most common topic modelling by using LDA-it is unsupervised machine learning technique used for topic modelling and also VADER sentiment analysis to determine whether the review is positive, neutral, or negative.

And the tools and libraries which I have used are python(pandas, NLTK, SKlearn) this are very flexible and effective data processing libraries.And LDA(via scikit learn) which help in uncover the themes and topics from the review text without manual labelling. VADER sentiment analyzer from NLTK this tool is specifically used to determine whether the review is positive, neutral, or negative which expressed in social media. And Jupyter Notebook which I used to dump all the code and used to import all libraries and used for visualization.

The challenges which I faced in this project that data cleaning it’s a messy data with more Empty Strings so in removed all the empty string by using essential techniques and in LDA topics that has to be checked each and very group together by LDA and manual checking is important to make the sense of data. And there is not timestamps in the dataset were its very difficult to analyze trends over so I added Timestamps and overcome this challenge.

If I have more time I would like to add more visualizations that could help in showing the good vs bad reviews. Also keeping the real-time alerts were if any one gives negative review they come I using Api