

**THIRD YEAR EXAMINATIONS FOR THE DEGREE OF BACHELOR OF**

**SCIENCE IN COMPUTER SCIENCE**

**PRACTICUM ASSIGNMENT III**

**TEXT ANALYTICS**

**SCS 3312: BUSINESS INTELLIGENCE & ANALYTICS**

Date: 29th April, 2025 To Be Submitted Before 11.00 PM 15th May, 2025

Instructions: Answer ALL questions

**Porter's Five Forces Model:** Analyzes the competitive intensity and attractiveness of an industry by examining five key forces:

1. **Threat of New Entrants:** How easy is it for new companies to enter the industry?
2. **Bargaining Power of Suppliers:** How much power do suppliers have to raise prices or reduce the quality of goods and services?
3. **Bargaining Power of Buyers:** How much power do customers have to demand lower prices or higher quality?
4. **Threat of Substitute Products or Services:** How likely are customers to switch to alternative products or services that meet the same need?
5. **Intensity of Rivalry Among Existing Competitors:** How fierce is the competition among current players in the industry?

Using text data for customer reviews on products and services from secondary datasets such as Kaggle, an example being Flipkart Products Review Dataset (<https://www.kaggle.com/datasets/mansithummar67/flipkart-product-review-dataset>) or any other dataset of your own choice having product and/or service reviews and by making reference to the above **Porter's Five Forces Model** (where necessary), answer the following questions:

1. Describe **a pipeline of tasks** starting from Data Collection and ending with Insight Generation and Visualization. Further show Tensor flow code sample snippets for each activity in the pipeline.
2. With reference to the ‘Bargaining power of the Buyers’, **conduct Sentiment Analysis** to analyze customer reviews and social media for negative sentiment related to price, lack of features, or poor service. Show code snippets and screenshots for results for each of the steps in your pipeline of activities,
3. Perform **Topic Modeling** and Identify key mentions/topics related to either new entrants or competitors, disruptive technologies, alternative products or services, Pain Points or key areas where competition is focused (e.g., specific features, customer service aspects).