**SCHOOL OF ENGINEERING**

**DEPARTMENT OF AI & ML (IIIrd Year II Semester)**

**Application Development- web application with Natural**

**Language Processing & IOT Explore (MR22-1CS0264)**

**Date:**

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| **Name of the Guide** | Dr. Anjaiah | |
| **Project Title** | Text Summarization Using NLP | |
| **Project Title (Any Change)** |  | |
| **Section Name & Batch Number** | ZETA, ZT4 | |
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| **Abstract Work** | Text summarization is a significant task in Natural Language Processing (NLP), where the goal is to shorten a large document into a condensed version that retains the most essential information. This project implements **Extractive Text Summarization**, an approach that selects the most important sentences directly from the original text and arranges them to create a coherent summary. It focuses on **sentence scoring** based on the frequency of important words and their relevance to the overall content of the document.  The process begins with text preprocessing, including **tokenization** and **stopword removal**. Tokenization splits the text into individual words and sentences, while stopword removal eliminates common words (e.g., "the", "is", "and") that do not contribute to the meaning of the text. The remaining words are then analyzed to calculate their **frequency**, which is used to determine the importance of sentences in the document. Sentences that contain words with higher frequency scores are considered more significant and are selected to form the summary.  This project leverages the **NLTK library** to implement these steps, making it a simple yet powerful tool for text summarization. The summary is generated by extracting the top-ranked sentences based on their word frequency scores, allowing for quick comprehension of the text. The method can be applied to a variety of domains, including **news articles**, **research papers**, and **social media analysis**. By automating this process, the project showcases the practical potential of NLP for efficiently managing large amounts of textual data and facilitating information retrieval. | |

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