NSBM Green University

Faculty of Computing

BSc (Hons) Data Science

DS402.3 - Neural Networks

Group Assignment

Group - 2

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Text Summarization and Topic Extraction Tool

Project Overview

- Smart Text Summarization & Topic Extraction
- This project is an AI-powered web application built with Streamlit that allows users to:

  o Upload PDF files or Paste text
  o Automatically summarize large documents
  o Extract topics and key themes using advanced NLP models

- The summarization is performed using HuggingFace Transformers (DistilBART), while topic modelling is powered by BERTopic, leveraging UMAP, HDBSCAN, and Sentence Transformers.

Key Features

- Fast, extractive and abstractive summarization
- Topic clustering with semantic embedding
- Keyword-to-sentence mapping for easy exploration
- Downloadable summaries
- Simple and interactive Streamlit UI

GitHub Repository: Text Summarization & Topic Extraction Group 02:

Web Application: Streamlit App