Domain : Natural Language Processing (NLP)

Batch No: D13

G. Narayanamma Institute of Technology & Science (For Women) (Autonomous)

Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad
Accredited by NBA & NAAC, an ISO 9001:2015 Certified Institution
Shaikpet, Hyderabad-500104

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)
<GN-R-18> (2022 - 2023) II B. Tech II Sem Hobby Project

on

"Textbook Companion: An Enhanced Question & Answer Model for Textbook Queries"

Abstract

Textbooks have been the traditional method of providing learning content to students for decades, and therefore have become the standard in high quality content. But most of the students may prefer the ease of availability and interactive features of online resources. However, it is important to note that not all information available on the internet is reliable or accurate as some of them may be biased, inaccurate, or outdated, which can lead to confusion and misunderstandings. Moreover, while online resources can be helpful for learning, they should not be used as a substitute for textbooks. Textbooks are carefully curated by subject matter experts and contain relevant and accurate information that has been verified and tested over time. Textbooks provide a structured and organized approach to learning, which can be difficult to replicate when using online resources.

The project aims to develop a question and answer-based model that can effectively answer questions asked on standard textbooks. The proposed model utilizes Natural Language Processing (NLP) techniques to analyze and comprehend the textual content of textbooks. The model is trained on a large corpus of textbooks, including a variety of subjects and levels of difficulty, to ensure its effectiveness across multiple domains. It also employs techniques such as semantic analysis and information retrieval to identify relevant sections of the textbook that can provide accurate answers to the given questions. The proposed model is designed to handle a wide range of questions, from simple factual questions to complex questions that require deeper understanding and reasoning.

The outcomes of this project will have significant implications in the field of education, as it can assist students in their studies by providing them with a reliable and interactive learning tool.

H/W & S/W Requirements

HARDWARE: Processor: Intel core i5 or i7, RAM: 8GB, Storage Capacity: 512GB SSD

SOFTWARE: Programming Language: Python, Development Environment: Colab, NLP library: Transformers, Pre-trained Language model: GPT-2, Hugging Face API, Dataset: PDF DRIVE

*Dept R&D: No   * If No : GNITS

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