

Project Proposal for Theme 2: Intelligent Learning Platform

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Topic Selection:

We have chosen the topic of "Developing an Intelligent Learning Chatbot" as it addresses a significant problem in the field of online education. The goal is to create a chatbot that leverages Language Model Models (LLMs) to provide a conversational interface for students to ask questions about the class, course content, and related topics. This chatbot aims to enhance the learning experience by offering quick and accessible information retrieval for students.

Relevance to Theme and Course:

This project aligns with Theme 2, "Intelligent Learning Platform." It directly relates to the course by applying techniques in natural language processing, data mining, and machine learning to build an intelligent tool for learners. The chatbot will bridge the gap in existing platforms by offering personalized and efficient support for students' inquiries.

Datasets, Algorithms, and Techniques:

We will use class transcripts and related educational data as our primary dataset.

The project will involve pre-processing the text data, training language models, and implementing conversational AI techniques. Techniques such as BERT, GPT, and transformer models will be explored for understanding and generating human-like responses.

To demonstrate the success of our approach, we will:

- Conduct testing and validation with sample questions and answers to ensure accurate responses.
- Collect feedback from users to assess the chatbot's usefulness and improvements in the learning process.
- Compare the chatbot's performance with traditional Q&A methods in terms of speed and accuracy.
- We plan to use Python for data processing, machine learning model implementation, and web development for the chatbot's interface.

Workload Justification:

We estimate the workload for this project to be at least 80 hours for our team of 4 people . The main tasks and estimated time costs are as follows:

Data Preprocessing and Collection - 16 hours

Model Training and Fine-Tuning - 24 hours
Chatbot Interface Development - 20 hours
Testing and Evaluation - 12 hours
User Feedback Collection and Analysis - 8 hours

Final Deliverables:

At the final stage of our project, we will deliver user feedback analysis to demonstrate the effectiveness of the chatbot in answering class-related questions. We are committed to improving the online learning experience by providing students with a user-friendly and intelligent chatbot for accessing class-related information easily.

Thank you for considering our project proposal. We look forward to contributing to the theme of intelligent learning platforms and the course's objectives.