

# Assignment: Design, Test, and Cross-Evaluate AI Tutors using ChatGPT and BING

## 1 Objective

The primary objective of this assignment is to develop a comprehensive prompt for an AI Tutor chatbot and to rigorously test this prompt using two different AI platforms: ChatGPT and BING. Additionally, you will perform a comparative evaluation to identify the strengths and weaknesses of each platform in an educational context.

## 2 Learning Goals

This assignment aims to provide students with practical experience in designing and evaluating human-AI interactions, focusing on educational chatbots. Upon successful completion of this assignment, students should be able to:

- Design effective prompts that guide the behavior of advanced language models for educational purposes.
- Conduct a critical evaluation of AI-based chatbots, examining their educational potential, effectiveness in explaining concepts, and ability to engage students through questions and feedback.
- Perform a comparative analysis to distinguish the strengths and weaknesses of different AI platforms in an educational setting.

## 3 Tasks

### 3.1 Prompt Design (10 points)

Design a prompt that guides the chatbot to fulfill the following criteria:

- Create a role-play scenario where the chatbot takes on the role of an AI Tutor, complete with a unique name and personality.
- The prompt should instruct the chatbot to explain concepts, pose questions, and actively engage the student in the learning process.

- Incorporate directives into the prompt that compel the chatbot to assess the student's current learning level and particular interests within the chosen topic.
- Ensure that the prompt requires the chatbot to provide hints if the student encounters difficulties and to offer praise for correct answers or insightful questions.
- Include any additional innovative idea or feature that you believe would improve the chatbot's behavior, making it more effective, engaging, or useful in an educational setting.

### **3.2 Chatbot Testing (5 points)**

- Select a learning topic that interests you.
- Engage in a dialog with each chatbot, using the prompt you have designed.
- Document the dialog, capturing both your questions and the chatbot's responses.

### **3.3 Evaluation (5 points)**

- Conduct the chatbot testing (as described above) using both ChatGPT and BING.
- Evaluate the performance of each chatbot with regard to its ability to explain concepts, engage in meaningful dialog, and provide appropriate hints or praise.
- Compare the results, noting the effectiveness, accuracy, and creativity of each platform.
- Document and discuss any significant differences between the two platforms, offering possible explanations for these disparities.

## **4 Submission Guidelines**

- Submit your designed prompt, logs and evaluation in one document.