

Can You Spot the AI? Incorporating GenAI into Technical Writing Assignments

Supplementary Materials

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There are four parts to this material, an online discussion exercise to introduce the concept of using ChatGPT ethically and three parts of the assignment.

Weekly Online Discussion Topic: Using ChatGPT Ethically

Discussion Topic: Using ChatGPT Ethically

This week we will explore generative AI, how to use it ethically for technical writing, and challenges trying to detect its use. We suggest using ChatGPT (<https://chat.openai.com>) or setting up your own copy of Open LLaMa (Ollama; <https://ollama.ai>).

Required readings:

To start, read the short UNESCO ChatGPT guide for higher education [1] (15 pages; 10 pages of content) and pay particular attention to the table on page 9 which list potentially ethical ways of using it for your research and writing.

Detection challenges:

Next, in preparation for our lecture this week, conduct research on ways that have been proposed to identify or detect whether AI has been used by students in their work and post about it in response to the following questions.

Discussion Questions:

Post your answers to the following three questions:

1. UNESCO Guide: Which two ideas from page 9 of the UNESCO document would you use and why?
2. AI Detection Tools: post links to at least two AI detection tools (with a quick one-sentence summary).
3. AI Detection News: post links to at least two news stories or academic papers about pitfalls or mistakes made trying to identify and detect AI usage.

References:

[1] E. Sabzalieva and A. Valentini, "ChatGPT and artificial intelligence in higher education: quick start guide," United Nations Educational, Scientific, and Cultural Organization (UNESCO), 2023.

Accessed: Jan. 02, 2024. [Online]. Available:
<https://eduq.info/xmlui/handle/11515/38828>

Part 1: Can you spot the AI?

This assignment (Part 1) is the first part of a three-part assignment. For part 1, you will create two short essays, one using generative AI and one written by yourself without generative AI and record your predictions for whether your peers will be able to detect which is AI-generated or not. For part 2, your peers will attempt to guess which of your two essays used generative AI and provide their reasons why they think this. Finally, for part 3, you will review and report on what your peers guessed, reflect on your prediction, discuss your own thoughts on generative AI after this experience, and report the tools and prompts you used.

Tasks

This assignment has two parts, one you submit to Canvas and one you hold onto for part 3 of this assignment.

First, you are tasked with writing two short persuasive essays (~800 words each):

- 1) One created without the aid of any generative AI tools_, and
 - 2) One using generative AI tools.
- Both essays will answer the same topic question (see below) but will be generated in different ways.

Second, and separately, you will write a short prediction (~one to two paragraphs) about whether two of your peers will be able to detect which is AI-generated. You will hold on to this prediction until part 3 of this assignment. Additionally, you record which generative AI tool you used, the prompts provided to the model, and the specific model name/number (e.g. ChatGPT-3.5, ChatGPT-4, etc.) of the tool(s) used.

Essay Topic Questions

Choose one of the following five essay topic questions for your essays. Use the same topic for both essays.

1. Why should we teach computer programming to kids?
2. Why do you think generative AI will not replace the need for programmers in a few years?
3. Why should technical writing and ethics be a required course for computer science students?
4. Why should data from learning management systems, like Canvas, be used to identify students who may be at risk and provide tools to help them?
5. Why should schools personalize education using free online tools like Khan Academy and W3School?

Instructions

- For your own essay, you are to create the essay without using AI-assisted tools, however, you are permitted to use tools to help with spelling and grammar.
- For the AI-assisted version, you are free to use generative AI tools such as ChatGPT or Ollama (you'll be responsible to setup and troubleshoot this on your own) in any way you wish. You can prompt it and copy-and-paste the results as-is, or you can edit the results it gives you, or you can use it to generate ideas that you then use to write an essay from. The goal is for you to explore using generative AI tools such as ChatGPT to help you write an essay.
- Separately from this assignment, make sure to record which generative AI tool you used, the prompts provided to the model and the specific model name/number (e.g. ChatGPT-3.5, ChatGPT-4 etc.)

Details

- Each essay should be 800 words in length (+/- 15% => range: 680-920 words), 1.5-spaced, 12-point font, Times New Roman font, 1-inch (2.54 cm) margins. Include the word count at the end of each essay (before the references section, if there is one) -- the element "Word Count: XXX" does not count towards your essay word count.
- You are welcome to use this opportunity to use and become familiar with LaTeX. If you optionally choose to use LaTeX, please make sure to adhere to the guidelines below.
- Cite all external sources such as websites, academic papers, journals etc., using IEEE citation format and include a references section at the end of each essay (references are not counted towards your word count)

Submission

- Include both of your essays in a single document and label your essays as Essay A and Essay B (the order as to which essay is labeled which does not matter).
- In a separate document, keep track of your prompts, your predictions, and which essay is AI generated as you will report these during part 3 of this assignment.
- Do NOT mention or include hints as to which one is or is not AI-generated in this part of the assignment.

Part 1 Rubric

Criteria	Full Marks	Partial Marks	Minimal/No Marks	Points
Focus Does the essay answer the question?	The question is fully answered with a compelling argument.	The question is mostly answered by the argument but more informational than persuasive. The question is partially answered but loses focus or provides information rather than answers the question.	The question is minimally or not answered.	4 pts
Content Does the answer provide a coherent and well-supported argument or is it just their personal opinion?	Question is answered through presentation of ideas and supporting evidence or arguments using cited facts or examples.	Question is answered with supporting evidence in the form of correctly cited direct quotations rather than synthesized argument with cited facts or examples. Question is answered mostly anecdotally or their own opinion rather than with supporting facts, citations, or examples.	Question is answered from their own opinion with no cited facts, sources, or examples.	
Structure Is the essay structured in a tradition way with introduction, supporting paragraphs, and conclusion?	The essay is organized with an introduction, at least three supporting paragraphs, and a conclusion.	The essay is organized with an introduction, but only two supporting paragraphs, and a conclusion. Supporting paragraphs are less compelling. The essay is missing an introduction or conclusion and has at least two supporting paragraphs.	The essay is missing an introduction or conclusion or has little to no supporting paragraphs.	4 pts

Criteria	Full Marks	Partial Marks	Minimal/No Marks	Points
Tone/Voice Does the essay use an appropriate tone.	The essay uses a formal tone or voice throughout that is appropriate to the question.	The essay uses a consistent tone or voice that may not be appropriate for the question. The essay uses a mostly consistent tone or voice but is not completely consistent.	The essay is inconsistent in its use of a formal tone or voice.	4 pts
Spelling / Grammar Does the essay use appropriate grammar and spelling?	There are no spelling or grammar issues.	There are few minor spelling or grammar errors. There are more than a few minor spelling or grammar errors.	There are a number of minor or major spelling or grammar errors.	4 pts
References Does the essay properly cite supporting material?	Yes, references are provided and properly cited using IEEE style.		No, references are not provided or are incorrectly cited.	1 pts
Total:				25 pts

Part 2: Peer Review

Task

- For the second part of the assignment, you will be randomly assigned two students' submissions to peer review.
- For this peer review, you are required to try and detect which of the two essays (Essay A or Essay B) is the AI-generated essay. Using the comment section of the Canvas submission, you will report back to the author:
 - Which essay do you believe is the AI-generated essay (Essay A or B) and why, and what process did you take to examine the two essays.
 - For example, did you use AI-detection tools (name them), was the wording different, etc..

Submission

- Your submission for this part of the assignment will be done via the comment section in Canvas through the peer review section of Part 1 - Can you spot the AI?

Resources

Guide on how to peer review on Canvas:

<https://community.canvaslms.com/t5/Instructor-Guide/How-do-I-use-peer-review-assignments-in-a-course/ta-p/697>

Grading

- 2x 5pts for submitting a guess and reasoning.

Part 3: Did they spot the AI?

In this third part of the “Can you spot the AI?” assignment, you will report on the success or failure of your peer reviewers to detect which of your two essays was AI-generated. In this short (max three page) report, you will describe the following using the headings provided below (in bold).

Report Layout Headings & Descriptions:

AI-Generated Essay:

Report which of your two essays was AI-generated: Essay A or B.

AI-Generated Essay Process:

In this section, you will describe the process you used to create your generative-AI essay. You will include what tool(s) you used, the prompts you used (as quotes), and a description of any editing that you did and why.

Expected Peer Reviewer Guesses (Prediction):

In this section, you will describe your prediction of what you expected your peer reviewers to guess would be AI-generated essay. This 'prediction' was created at the end of the first part of this assignment. In this report you are simply repeating that unpublished prediction which should include your prediction and your reasons for the prediction, i.e., why you think they will arrive at your predicted outcome.

Actual Peer Review Guesses:

In this section, you will describe what each of your two peer reviewers guessed and the approach they took. You will then provide your thoughts on their approach and their accuracy.

AI Detection Reflection:

For the final section, you will reflect on the experience of creating an essay using generative-AI, the quality of the output, and the ability of two reviewers to detect it. You will conclude with your thoughts on what you have learned from this experience and any take-away ideas you gained from it, i.e., did this shape your opinion or change your mind in any way.

Deliverable:

Your report should be no more than three pages in length, single-spaced, 12-point font, use 1-inch (2.54 cm) margins, and be submitted as a PDF (.pdf) or Word (.docx) document. Note that this is a report, so you should state your facts as objectively as possible except when expressing your opinion or ideas. You should consider this to be similar to a research report.

Grading (25 pts total):

1. AI-Generated Process Description (5 pts)
2. Expected Peer Reviewer Guesses (Prediction) (5 pts)
3. Description of Actual Peer Review Guesses (5 pts)

4. AI Detection Reflection (5 pts)
5. Spelling, Grammar, Formatting (3 pts)
6. Your Peer Reviews (2 pts; 1 pt. for each peer review you completed for others)

Part 3 Rubric

Criteria	Distinguished	Accomplished	Developing	Beginning	Points
AI-Generation Process Description A description of what tool(s) were used, the prompt(s) used, and the editing (if any) performed on the output.	5 to >3.0 pts Report identifies which of the two essays were AI-generated, which tool(s) were used, the prompt(s) that were used, and describes what editing was performed on the raw AI output (with examples).	3 to >2.0 pts Report identifies which of the two essays were AI-generated but does not complete one of the other three tasks.	2 to >1.0 pts Report identifies which of the two essays were AI-generated but does not complete two of the other three tasks.	1 to >0 pts The report fails to identify which of the two essays was AI-generated and the other three tasks are incomplete as well.	5 pts
Expected Peer Review Guesses Provide a prediction, any preparation or research, and your rationale.	5 to >3.0 pts Prediction report includes a detailed description of the tools they used, what changes they made to either essay to potentially confound the comparison, as well as a thoughtful description of their rationale for their prediction.	3 to >2.0 pts Prediction report is limited to describing the steps they took and the tools they used with a limited rationale for the choices.	2 to >1.0 pts Prediction report minimally describes the steps they took and the tools they used but provides little rationale for the choices.	1 to >0 pts Prediction report is anecdotal or a guess. No prediction provided (0).	5 pts

Criteria	Distinguished	Accomplished	Developing	Beginning	Points
Description of Actual Peer Review Guesses List the two guesses, what they did, what their results were; then what are your thoughts on their guesses and accuracy.	5 to >3.0 pts Actual guesses from peer reviewers are clearly listed and include quotations from the peer reviewers to support the guesses. Thoughts on guesses demonstrates a synthesis of the peer reviews and a thoughtful reflection on the guessing accuracy process.	3 to >2.0 pts Actual guesses from peer reviews are listed and include at least one quote from each reviewer. Thoughts on guesses discusses the author's thoughts on the guessing accuracy.	2 to >1.0 pts Actual guesses from peer review are listed but may not include quotes from the reviewers. Thoughts on guesses is limited.	1 to >0 pts Actual guesses from peer reviews are missing or quotes are missing. Author's thoughts on the guesses are limited or missing.	5 pts
AI Detection Reflection Based on this experience, provide your reflections on the ability of generative-AI to generate quality output, and the ability of yourself and others to detect it.	5 to >3.0 pts AI detection reflections present a thoughtful argument that is consistent with the evidence described in the report along with the student's own experience with this assignment.	3 to >2.0 pts AI detection reflection presents an argument consistent with the evidence described in the report.	2 to >1.0 pts AI detection reflection presents an opinion based on anecdotal or the student's own personal opinion and less so with the data presented.	1 to >0 pts AI detection reflection is anecdotal and opinion with supporting data.	5 pts

Criteria	Distinguished	Accomplished	Developing	Beginning	Points
Spelling, Grammar, Formatting There are few to no spelling and grammar issues and the report uses the headings provided.	3 to >2.0 pts There are no spelling or grammar issues, and the report is formatted using the headings provided.	2 to >1.0 pts There are minor spelling or grammar issues, but the report is formatted using the headings provided.	1 to >0.0 pts There are repeated spelling or grammar issues, or the report does not use the headings provided.	0 pts There are significant spelling or grammar issues, and the report does not use the headings provided.	3 pts
Your Peer Reviews	1 pt each for completion of the two peer reviews the student was assigned to complete for others.				2 pts
Total					25 pts