

A watercolor illustration featuring several stylized robots and a woman. The robots are depicted in various colors and designs, including blue, red, and grey. One robot in the center is blue with a red square on its chest. To its right is a robot in a red shirt and black pants. In the foreground, there's a robot with a grey head and a brown body. On the far right, a woman with blonde hair is wearing a red top and an orange skirt. The background is a light, textured surface.

Human AI Interaction

Lecture 6: Teardowns
aidesignclass.org

Recap + Announcements

- Journey maps: A start-from-the-user method
- Tech matching: a start-from-tech method
- Understanding how LLMs work – predicting the next word can be powerful
- LLMs/other foundation models can go beyond expert systems and logic rules
- “Prompting” LLMs to get tasks done

Announcements:

- Quiz 2 is due this weekend. It’s a bit more challenging
- Assignment 1 is due next weekend
- This week is about teardowns and using feedback

Today: teardowns

Plan:

- We will analyze two generative AI systems, in increasing order of complexity
- What are the parts? How do they fit together?

☰ Bard Experiment

+ New chat

Recent

☐ suggest three alternat...

☐ make an image of a uni...

● North Decatur, GA, USA
[From your IP address](#) • [Update location](#)



suggest three alternatives to a boring lecture for a college class



View other drafts ▾ 🔊



Here are three alternatives to a boring lecture for a college class:

1. Interactive learning activities

Interactive learning activities allow students to engage with the material in a more active way, which can help to improve their retention and understanding. Some examples of interactive learning activities include:

- **Group work and discussions:** Students can work together on problem-solving exercises, case studies, or research projects. This allows them to learn from each other and share their perspectives.
- **Simulations and role-playing:** Students can participate in simulations or role-playing exercises to experience real-world scenarios and learn how to apply the concepts they are learning in class.
- **Games and puzzles:** Educational games and puzzles can be a fun and engaging way for students to learn new concepts and practice their skills.

2. Case studies

Case studies present students with a real-world problem or situation and ask them to apply their knowledge and skills to solve it. This type of learning activity can help students to develop their critical thinking and problem-solving skills.

3. Flipped classroom

In a flipped classroom, students learn the material outside of class by watching video lectures, reading articles, or completing other online activities. Then, class time is used for interactive learning activities, such as group work, discussions, and problem-solving exercises. This allows students to learn at their own pace and get help from the instructor when they need it.

All of these alternatives to lectures can help to make college classes more engaging and effective for



Enter a prompt here



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Why teardowns

- Understand how you go from LLM -> an actual product that people want to use
- Learn what the hard parts are

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Teardown 1: Assistant

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Teardown 1: Assistant

The screenshot displays the ChatGPT web interface. On the left is a dark sidebar with a 'New chat' button and a list of previous conversations categorized by date: 'Today', 'Yesterday', 'Previous 7 Days', and 'Previous 30 Days'. The main chat area shows a user prompt: 'suggest three alternatives to a boring lecture for a college class'. The AI response, generated by GPT-4, lists three alternatives: 1. Interactive Workshops, 2. Flipped Classroom, and 3. Gamified Learning. Each item includes a brief description of the method. Below the response is a 'Regenerate' button and a text input field with a 'Send a message' button. At the bottom, a disclaimer states: 'ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT August 3 Version](#)'.

+ New chat

Today

Sure, I can help with that!

Yesterday

3-Year GPU Rental Risks

Previous 7 Days

Slack Scheduling UI Blocks

Tropical Vacation Planning

Fun Animal Adventure

Translate English to French.

NLP/AI/HCI Foundations & Chal

College Notetaking Assignment

New chat

Previous 30 Days

CH chinmayk@cs.cmu.edu

GPT-4

CH suggest three alternatives to a boring lecture for a college class

1. **Interactive Workshops:** Instead of a one-way flow of information, turn the lecture into an interactive workshop. This can involve students working in groups, engaging in hands-on projects, or using tools and materials related to the topic.

2. **Flipped Classroom:** Assign students to watch video lectures or read materials at home. Then, use class time for discussions, problem-solving, and answering questions.

3. **Gamified Learning:** Incorporate educational games or apps into the lesson plan. This can help in making the learning experience more engaging, challenging, and fun.

Regenerate

Send a message

ChatGPT may produce inaccurate information about people, places, or facts. [ChatGPT August 3 Version](#)

Teardown 1: Assistant

We'll use an
open-source assistant,
so you can study it for
yourself

<https://github.com/huggingface/chat-ui/>

 HuggingChat New Chat

"Shake up the classroom routine."

Untitled 5

No meaningful content provided.

"27" (In addition, here's that ana...

chinmayk

Theme

Settings

Feedback

About & Privacy

suggest three alternatives to a boring lecture for a college class

• Sure! Here are three alternatives to a traditional lecture for a college class:

1. **Interactive Workshop:** Instead of a one-way lecture, consider an interactive workshop where students can engage in hands-on activities, discussions, and group exercises. This format encourages participation, fosters collaboration, and allows students to learn from each other. For example, you could create a simulation exercise that requires students to apply concepts they've learned in the course to solve a real-world problem.
2. **Flipped Classroom:** In a flipped classroom model, students watch lectures or read course materials before coming to class, and then use class time for active learning activities such as group projects, case studies, or peer review sessions. This approach allows students to work through complex problems together and get immediate feedback from their peers and instructor. You could also incorporate virtual guest speakers or video tutorials to supplement the course material.
3. **Gamification:** Gamify your course by incorporating game design elements such as points, badges, or leaderboards into the learning experience. This can make the course more engaging and motivating for students. For instance, you could create a friendly competition among students to see who can complete assignments the fastest or achieve the highest score on quizzes. You could also offer rewards for completing certain tasks or achieving specific milestones, such as extra credit or special privileges.

Search web ⓘ



Ask anything 


Model: meta-llama/Llama-2-70b-chat-hf · Generated content may be inaccurate or false.

 Share this conversation

The different parts of these assi

Topic list



 HuggingChat New Chat

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Search web ⓘ 👍 🗨

Ask anything ➤

Model: meta-llama/llama-2-70b-chat-hf · Generated content may be inaccurate or false. 🔗 Share this conversation

Conversation
thread



How would you implement the topic list?

Try it with a conversation you've had / example from the previous page.

1. Go to makersuite.google.com
2. Write out your "text prompt" and try it out

Topic list



Some possible prompts

"Summarize the following conversations into a three or four word title:"

"What three words best describe the following conversation?"

"Suggest a title for a conversation, as shown in the examples below"

"Summarize the following conversations into a three or four word title. Start with a relevant emoji"

Huggingface's prompt:

```
userPrompt =
```

```
    `Please summarize the following message as a single sentence of  
less than 5 words:\n` +
```

```
    firstMessage?.content;
```

<https://github.com/huggingface/chat-ui/blob/main/src/routes/conversation/%5Bid%5D/summarize/%2Bserver.ts>

How would you implement the conversation?

One way to do this:

```
<System>You are an AI, called ChatAI.</System>
{{#each messages}}
  {{#ifUser}}<User>{{content}}</User>{{/ifUser}}
  {{#ifAssistant}}<Assistant>{{content}}</Assistant>{{/ifAssistant}}
{{/each}}
<Assistant>
```

<https://github.com/huggingface/chat-ui>

suggest three alternatives to a boring lecture for a college class

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Search web ⓘ



Ask anything ↗

Finally, tools

1. How do you decide when to search the web?
2. What do you do with the result?
 - a. Easiest: add them to the messages
 - b. Or: summarize and use results
 - c. Or: go access the search links and insert their content into the text

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Search web ⓘ



Ask anything ↗

Model: meta-llama/llama-2-70b-chat-hf · Generated content may be inaccurate or false.

🔗 Share this conversation

Teardown 2: post-editing translation

- How do you do the suggestion in E?
- How do you do the pop-up in D?
- How do you learn from what the user chose?

The screenshot displays a translation interface with the following elements:

- A**: Source text in French: "À équiper le centre de formation Studeo qui est accessible aux personnes à mobilité réduite et dont nous travaillons à la réalisation dans le cadre de l'institut Jedlička, avec l'association Tap, et ça depuis six ans."
- B**: Suggested target translation in English: "To equip studeo training centre which is accessible to people with reduced mobility and we work to achieve in the framework of the Institute jedlička, with tap, and been there for six years."
- Below B, there is a second set of text: "Des enseignants se rendent régulièrement auprès des élèves de l'institut Jedličkûv et leur proposent des activités qui les intéressent et les amusent." followed by its English translation: "Teachers regularly visit Jedličkûv Institute students and offered them activities of interest to them and having fun."
- C**: A blue highlighted area containing the source text: "Les étudiants eux-mêmes n'ont pas les moyens de se rendre à des cours, nous essayons de les aider de cette manière." and its corresponding English translation: "The students themselves cannot be required to attend courses, we are trying to help themselves cannot".
- D**: A dropdown menu showing four options: "themselves could not", "themselves do not", and "themselves cannot afford".
- E**: A red letter 'E' pointing to the full English translation suggestion: "themselves cannot afford".

Figure 2: Main translation interface. The interface shows the full document context, with English source inputs (A) interleaved with suggested target translations (B). The sentence in focus is indicated by the blue rectangle, with translated source words shaded (C). The user can navigate between sentences via hot keys. The user can also hide/unhide the autocomplete dropdown (D) and full translation suggestions (E) by toggling the Escape key.

Teardown 2: post-editing translation

- How do you do the pop-up in D?

Try your own prompts!

The screenshot displays a translation interface with the following elements:

- A**: Source text in French: "À équiper le centre de formation Studeo qui est accessible aux personnes à mobilité réduite et dont nous travaillons à la réalisation dans le cadre de l'institut Jedlička, avec l'association Tap, et ça depuis six ans."
- B**: Suggested target translation in English: "To equip studeo training centre which is accessible to people with reduced mobility and we work to achieve in the framework of the Institute jedlička, with tap, and been there for six years."
- Below B: A second source sentence in French: "Des enseignants se rendent régulièrement auprès des élèves de l'institut Jedličkův et leur proposent des activités qui les intéressent et les amusent." followed by its English translation: "Teachers regularly visit Jedličkův Institute students and offered them activities of interest to them and having fun."
- C**: A blue highlighted sentence in French: "Les étudiants eux-mêmes n'ont pas les moyens de se rendre à des cours, nous essayons de les aider de cette manière." Below it, the English source input: "The students themselves cannot be required to attend courses, we are trying to help themselves cannot".
- D**: A dropdown menu showing suggestions: "themselves could not", "themselves do not", and "themselves cannot afford".
- E**: A large blue rectangle highlighting the full English translation suggestion: "themselves cannot afford".

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<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=aff122ba957488c968e28959e7aeb66b5a68c276>

Teardown 2: post-editing translation

- How do you learn from what the user chose?

Change the prompt to make it a few-shot prompt!

The screenshot displays a translation interface with three sections. Section A shows the source text in French: "À équiper le centre de formation Studeo qui est accessible aux personnes à mobilité réduite et dont nous travaillons à la réalisation dans le cadre de l'institut Jedlička, avec l'association Tap, et ça depuis six ans." Section B shows the suggested target translation in English: "To equip studeo training centre which is accessible to people with reduced mobility and we work to achieve in the framework of the Institute jedlička, with tap, and been there for six years." Section C shows the source text in French with a blue highlight: "Les étudiants eux-mêmes n'ont pas les moyens de se rendre à des cours, nous essayons de les aider de cette manière." Section D shows a dropdown menu with three options: "themselves cannot", "themselves could not", and "themselves do not". Section E shows the full target translation in English: "The students themselves cannot be required to attend courses, we are trying to help them themselves could not themselves do not themselves cannot afford".

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<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=aff122ba957488c968e28959e7aeb66b5a68c276>

Using feedback

- What should happen when you click the thumbs-up button?
- What should happen with thumbs-down button?

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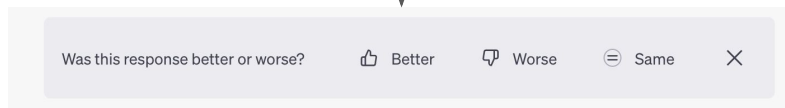
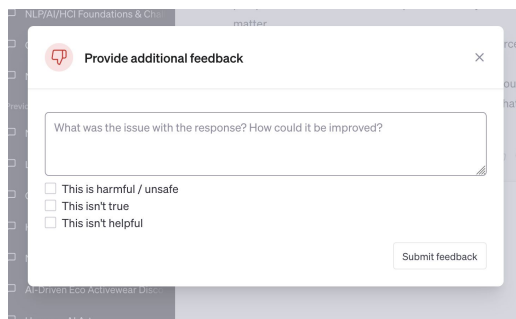
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Using feedback: some options (not great!)

- What should happen with thumbs-down button?

ChatGPT (also regenerates response)



Bard

Why did you choose this rating? (optional)

Offensive / Unsafe

Not factually correct

Other

Provide additional feedback

Even when Bard Activity is off, feedback submitted will also include up to 72 hours of your conversations to help improve Bard. [Learn more](#)

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