AI Prompt Engineering Course
Week2: AI in Education
2025-26

Tishk International University

3d Grade IT Students

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Contents

- Examples Ai applications
- AI Tools in Education

AI applications

These are some specific examples of successful prompt engineering applications:

Text generation:

- Bard
- GPT-3
- Turing NLG
- MuseNet
- Jukebox

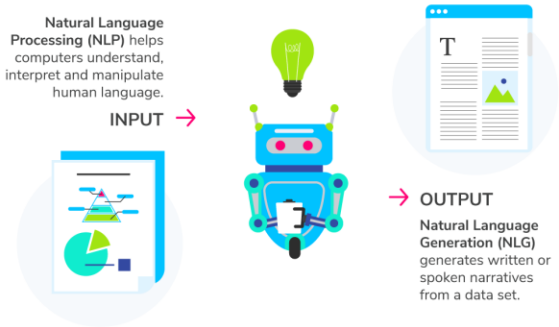
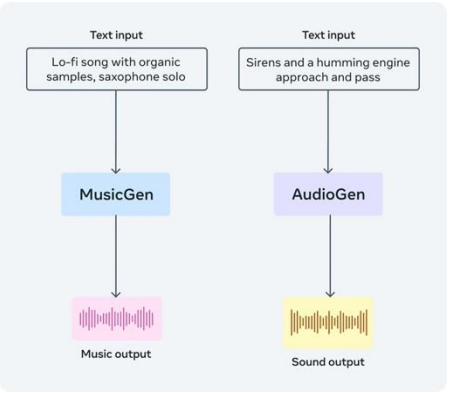


Image generation:

- DALL-E 2
- Imagen
- Parti

Audio generation:

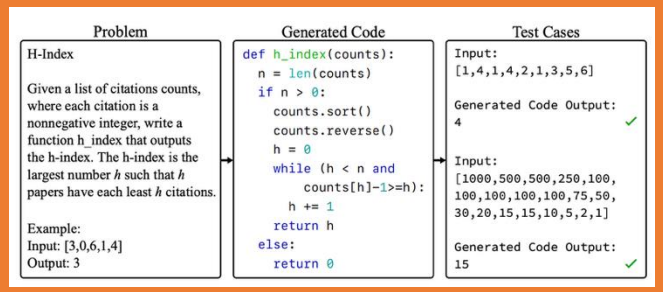
- Jukebox
- MuseNet
- AudioLM



All of these applications are specifically designed to use prompt engineering to generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way[2].

Please note that some applications overlap with multiple categories. For example, DALL-E 2 can be used for both text generation and image generation.

Ai applicaitons



Video generation

- **SORA** can also be used to generate videos from text descriptions. It is able to generate short videos that show the described event or scene.
- **Dance Diffusion** is a video generation model created by Google AI that can generate dance videos from text descriptions. It is able to generate videos of dancers performing a variety of dance moves.
- **Imagen Video** is a video generation model created by Google AI that can generate videos from text descriptions. It is similar to DALL-E 2, but it is able to generate longer and more complex videos.

Code generation:

- **GitHub Copilot** uses prompt engineering to generate code for programmers. GitHub Copilot is a popular code generation tool that is used by millions of programmers around the world.
- **TabNine** uses prompt engineering to generate code for programmers. TabNine is another popular code generation tool that is used by millions of programmers around the world.
- **Kite** uses prompt engineering to generate code for programmers. Kite is another popular code generation tool that is used by millions of programmers around the world.

All of these applications are specifically designed to use prompt engineering to generate text, translate languages, write different kinds of creative content, and answer your questions in an informative way[3].

AI Tools in Education

- Teachers and those in the education sector might be interested in a new overview guide that provides a wealth of **AI tools** and alternatives to **ChatGPT** [4].

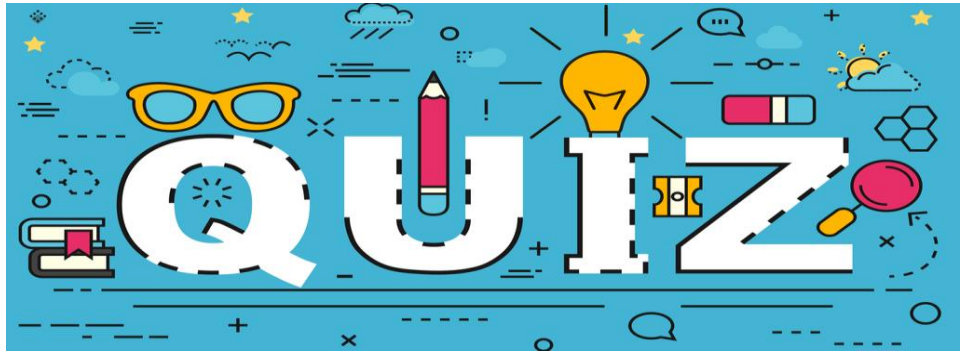
- The explosion of artificial intelligence over the last few years has brought about a plethora of tools that have revolutionized the way educators can approach their profession, and the way students engage with their learning materials.

Different ways AI can be used in the classroom

1- Quizzes and Assessments

- AI tools can generate quizzes and assessments that are closely aligned with the curriculum.
- They can pull from a database of questions that map to specific learning objectives, ensuring that students are tested on relevant material.
- Beyond question generation, these tools use machine learning algorithms to track student performance over time.
- They can adapt the difficulty level of questions in real-time to challenge students appropriately.

This dynamic assessment helps in identifying learning gaps and providing real-time feedback, thus making the evaluation process more equitable.



Different ways AI can be used in the classroom

2- Curriculum Design and Lesson Planning

- AI tools can process large datasets of student performance and curriculum efficacy to identify areas of improvement.
- Using predictive analytics, they can suggest changes to the curriculum or even auto-generate lesson plans complete with multimedia content and suggested teaching methods.

This enables teachers to focus on teaching rather than the time-consuming process of lesson planning.

Different ways AI can be used in the classroom

3- Creating Presentations

- AI tools can auto-generate presentations using natural language processing (NLP) and computer vision.
- These tools can create slides that are both visually appealing and informative based on textual input or even voice commands.
- Additionally, AI-driven image and video generators can enhance presentations with custom visuals, thereby making lessons more engaging.

Different ways AI can be used in the classroom

4- Subject-Specific Tools

- AI can be specialized for different subjects like **mathematics, science, or history.**
- These subject-specific tools provide tailored learning paths based on student performance metrics, enhancing the learning experience and improving academic outcomes.

Different ways AI can be used in the classroom

5- Real-Time Feedback and Grading

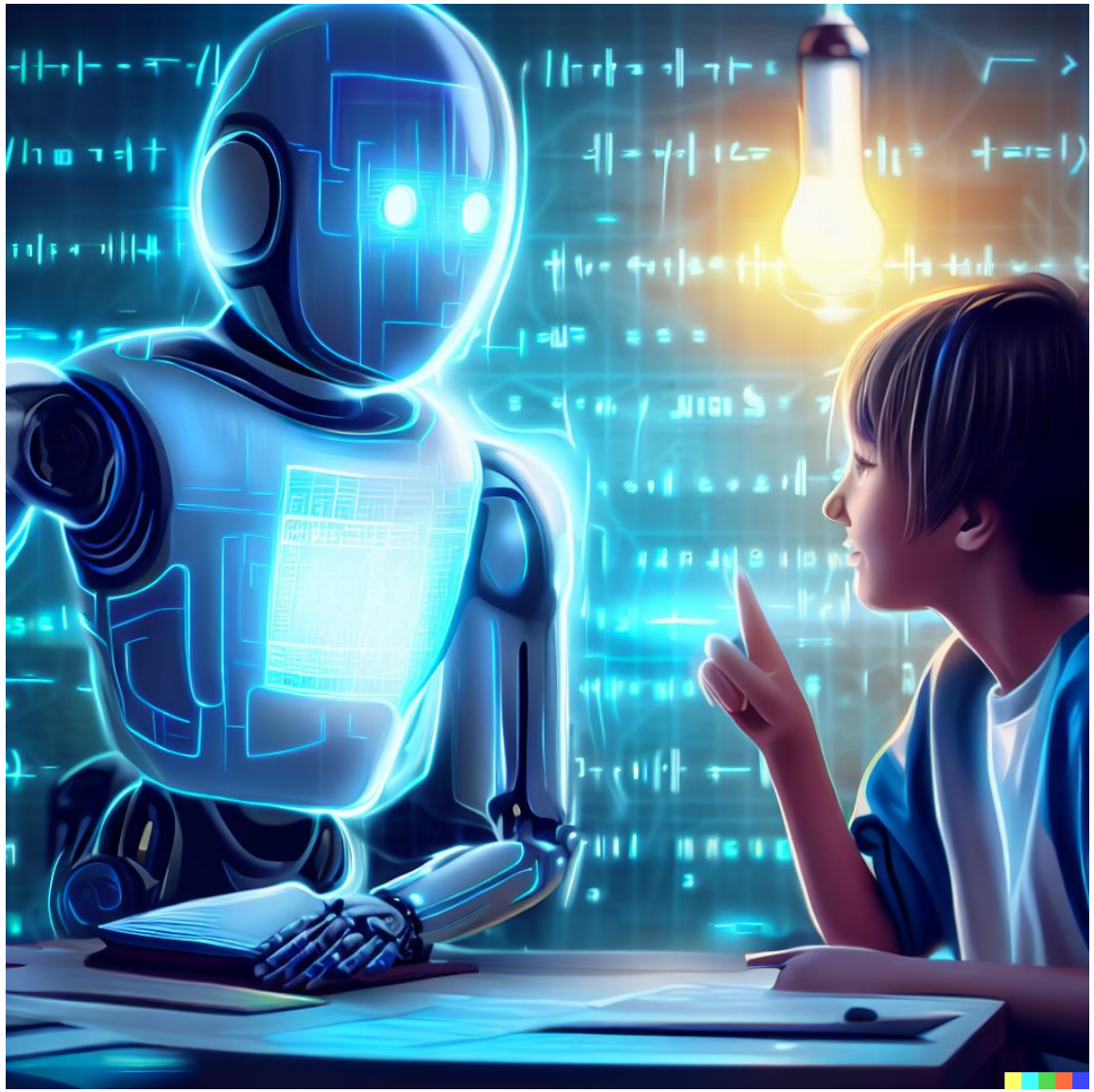
- AI assessment tools can offer immediate insights into student performance, allowing teachers to adapt their methods to better suit their students' needs. See Kahoot.
- AI grading tools can mitigate issues of bias or subjectivity in grading, ensuring a more uniform evaluation process.

Different ways AI can be used in the classroom

6- AI Tutors

AI tutors provide a personalized learning experience by adapting to each student's learning style and pace. Such as:

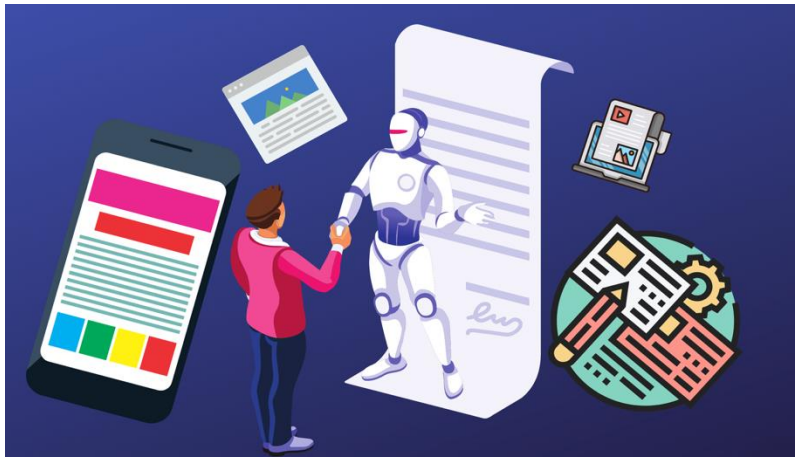
- **Mindgrasp** → For auto-creating study aids from your lecture slides.
- **Class Companion** → For giving real-time feedback on coding or lab submissions.
- **Khanmigo** → For class practice and concept-based tutoring.



Different ways AI can be used in the classroom

7- Writing Tools

- AI writing tools can assist teachers in generating content for *lesson plans, assignments, or research papers*.
- They can help in brainstorming ideas, structuring content, and even *checking for plagiarism*, thus freeing up teachers' time for more interactive educational tasks.



NotebookLM

Different ways AI can be used in the classroom

8-Language Learning and Translation

- AI-powered language tools offer features *like real-time translation, pronunciation guides, and cultural context*.
- They can assist students in understanding and *learning new languages, making education more inclusive*.

Different ways AI can be used in the classroom

- AI research tools can sift through massive datasets to extract relevant information, offering summarized insights that can help both students and teachers.
- **AI note-taking apps** can transcribe lectures, organize notes, and enable easy sharing among peers. For instance the **Wolfram** plugin makes **ChatGPT** smarter by giving it access to powerful computation, accurate math, curated knowledge, real-time data and visualization through **Wolfram|Alpha** and **Wolfram Language.**
- Notion App has also added artificial intelligence to its service allowing users to quickly *summarize, expand or arrange text and documents in different ways depending on the needs and requirements*

Different ways AI can be used in the classroom

10- Productivity Tools

- AI productivity tools can handle tasks like ***scheduling, attendance, and administrative paperwork***, **Data entry**, allowing teachers to focus solely on educational activities.

Summary

- AI tools have the potential to revolutionize education, making it more engaging, accessible, and personalized.
- By integrating these tools into their teaching methods, educators can enhance their teaching skills and improve student outcomes.
- However, it's important to remember that these tools are meant to supplement, not replace, traditional teaching methods.
- They should be used as a means to enhance the learning experience, not as a substitute for a teacher's guidance and expertise.

Works cited

- [1] H. Wei and X. Huang, "A Survey of Prompt Engineering for Large Language Models," arXiv preprint arXiv:2210.06939, 2022.
- [2] A. Ratner and C. Ré, "Prompt-Based Learning: A New Paradigm for Machine Learning," in Proceedings of the 38th International Conference on Machine Learning, pp. 9330-9339, 2021.
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- [4]:Julian Horsey, “46 ChatGPT alternatives and AI tools for teachers”, https://www.geeky-gadgets.com/46-chatgpt-alternatives/
- Video: ChatGPT alternatives and AI tools for teachers