



CHATGPT AND THE FUTURE OF COMPUTER PROGRAMMING



Scan to review worksheet

Expemo code:

1BFQ-A31C-9KUJ



1

Warm up



Watch the video and discuss the questions below.

1. What professionals were shown talking about AI?
2. Do they think AI can replace them? Why (not)?
3. How well do you think AI can do your job?





2

Vocabulary 1

Replace the underlined parts of the sentences with the correct form of the words and phrases in the box. You might also have to add words and change their order. Then discuss in pairs if you agree with the sentences.

collate (v)

exponentially (adv)

compelling (adj)

hail (v)

malicious (adj)

mind-boggling (adj)

mundane (adj)

staggering (adj)

1. The amount of information that computers can process is very difficult to imagine.

2. The study of AI rights and ethics is a very interesting and exciting topic.

3. There is a substantial risk that AI is used for bad or harmful purposes.

4. Computing power will continue to increase faster and faster.

5. The rate at which AI is developing is shocking.

6. AI is very good at ordinary tasks but will never be able to do something truly creative.

7. The potential of ChatGPT is being described as revolutionary, and for good reason.

8. Programs like ChatGPT don't actually produce anything original – they're just good at gathering existing information from the internet.

3

Reading 1

Read the article on ChatGPT and programmers. In what order are these topics mentioned?

- _____ The author's verdict on the impact of ChatGPT on the work of programmers.
- _____ A risk in using ChatGPT in programming.
- _____ Pros and cons of ChatGPT in general.
- _____ How programmers are likely to work with ChatGPT in the future.
- _____ What ChatGPT can currently not do well.
- _____ What ChatGPT is.
- _____ What ChatGPT can currently do for programmers.



Can ChatGPT take programmers' jobs?

The future of AI generators

1. If you use a computer to access the internet, you will undoubtedly have heard of ChatGPT - the AI program that provides original answers to virtually any request. Its potential is practically unlimited, with experts hailing its capacity to conduct medical research, design products and fight issues like global warming. An inevitable downside, however, is that it will also disrupt the job market significantly, some fields more than others. One of the jobs that, one way or the other, will be deeply affected by this tool are the very ones that helped create it: computer programmers.
2. In the near future, ChatGPT will have evolved to a point where it can effectively assist programmers with automated tasks like bug fixing and documentation. It can also generate new code that is similar to existing code, as its 'original' content is actually obtained by collating mind-boggling amounts of data it has scraped from the internet.
3. What its current version seems to struggle with – and might always do so – is innovating, and finding new solutions to existing problems. And that's where human programmers have more opportunity to shine now: by automating mundane tasks, they can free up time and effort to dedicate to creative aspects of their job.
4. That's not to say that programmers don't need to step up to the challenge: as AI develops at a staggering speed and is able to produce better and better code, they will need to be increasingly able to work with it, monitoring and assembling the code ChatGPT produces into functional products.
5. As ChatGPT capability builds up rapidly, there's another grave problem that it is emerging: to the same extent it can assist programmers to be more productive, it has the potential to increase cyber threats exponentially. The program can copy bad practices it sees online, as well as overlook vulnerabilities that leave the door open to malware. As a result, companies that turn to ChatGPT for cheap IT solutions may risk losing a lot more by exposing themselves to ransomware and other online threats.
6. The bottom line for programmers seems to be that, while it will indeed be taking over a number of tasks within programming, it will make the work of those who remain in the market faster and more compelling. It is also likely to create other jobs within programming, especially related to perfecting the use of this incredibly powerful tool and keeping its code safe from malicious use.

Sources: [bbc.co.uk](https://www.bbc.co.uk), [forbes.com](https://www.forbes.com), [businessinsider.com](https://www.businessinsider.com)





4

Reading 2

Read the article again and decide if the following sentences are true (T), false (F) or not given in the text (NG).

1. The writer believes that the loss of jobs due to AI advancements cannot be avoided. _____
2. They also believe that programmers will be affected more than most jobs. _____
3. The writer questions the originality of AI-generated code. _____
4. The writer is certain ChatGPT will eventually be truly creative. _____
5. The writer suggests programmers need to become more familiar with ChatGPT to remain relevant. _____
6. The writer claims ChatGPT can make computer systems more vulnerable, but can also be used to increase security. _____
7. The writer's view of the impact of ChatGPT on the work of programmers is pessimistic overall. _____





5

Grammar 1

Read the Grammar Box and complete the sentences with the correct form of the verbs in brackets.

Grammar box: Future perfect and future continuous

We use the future perfect (will + have + past participle) to talk about an action that will start and finish before a certain point in the future.

*In the near future, ChatGPT **will have evolved** to a point where it can effectively assist programmers...*

We use the future continuous (will + be + ing form) to talk about an action that will be in progress at a certain point in the future.

*The bottom line for programmers seems to be that, while it **will indeed be taking** over a number of tasks within programming,...*

1. AI _____ evolved enough to replace me until I retire. (not become)
2. _____ ChatGPT to assist you in your work in the near future? (you / use)
3. In about five years, AI _____ automatic tasks in most areas. (perform)
4. At the end of the year, people _____ so much about AI and the job market. (not talk)
5. Many professionals _____ replaced by ChatGPT by the end of the decade. (be)
6. By the time AI starts really disrupting the job market, other types of jobs _____. (appear)
7. In a few years' time, most professionals _____ with some form of AI. (work)
8. What _____ by the end of the decade? (ChatGPT / achieve)
9. With AI doing most mundane tasks, we _____ just creative work soon. (do)



6

Speaking 1

In pairs, roleplay the following situation.

Student A

- You are a partner in an IT company.
- You are thinking of replacing some of the programmers with ChatGPT.
- Discuss the situation with your business partner.

Student B

- You are a partner in an IT company.
- Your partner is thinking of replacing some of the programmers with ChatGPT, but you are wary of the risks.
- Discuss the situation with your business partner.

7

Talking point

In small groups, discuss the questions below.

1. Is ChatGPT truly improving the work of programmers? What about other jobs?
2. Can AI become a threat to the very existence of humankind? In what way?
3. Should AI have rights?
4. What jobs do you think will never be replaced by ChatGPT and other AI tools?
5. Will AI help humans to become smarter, or the opposite?



8

Extension activity 1

Complete the extract from the Warmer with one word in each gap. Then listen again and check.



I'm a software engineer. _____¹ I work, we're always trying to know: where can I find the best craft beer? Please generate the code _____² a website using HTML CSS and Flask that tells me where there's craft beer near me. This is just raw code. You actually need to run the code _____³. I'm copying and pasting the code into separate files and it generates a website. How cool! Here's our website. All three pieces: the back end, the front end and the styling _____⁴ actually make something that was human readable. That generates a website that we can look at and understand _____⁵ it does. It _____⁶ seem like a huge feat to me.

I'm a doctor. This prompt is _____⁷ that a patient might enter: I have a fever rash and body aches. The rash looks _____⁸ small welts on my genitals. Do I have monkeypox? The response is pretty solid in the _____⁹ that it's unlikely that you have monkeypox. The specific thing it _____¹⁰ right was that the monkey pox rash is actually not prominent on the genital area. It _____¹¹ on to say that a rash in the genital area most likely is an STI. The rest of the answer is just fluff: talking to your healthcare provider, _____¹² is pretty obvious. Can AI do my job? I don't think it's there yet. I think the AI right _____¹³ is really good for a first-year medical student.



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Extension activity 2

In groups, record a similar video to the one in the Warmer, trying out ChatGPT doing your job and explaining why or why not it can replace you.



Transcripts

1. Warm up

All actors: I'm a lawyer... copywriter ... doctor ... music producer ... personal trainer ... software engineer ... DJ.

All actors: I want to know: can AI do my job?

Software engineer: I'm a software engineer. Where I work, we're always trying to know: where can I find the best craft beer? Please generate the code for a website using HTML CSS and Flask that tells me where there's craft beer near me. This is just raw code. You actually need to run the code somewhere. I'm copying and pasting the code into separate files and it generates a website. How cool! Here's our website. All three pieces: the back end, the front end and the styling did actually make something that was human readable. That generates a website that we can look at and understand what it does. It does seem like a huge feat to me.

Doctor: I'm a doctor. This prompt is something that a patient might enter: I have a fever rash and body aches. The rash looks like small welts on my genitals. Do I have monkey pox? The response is pretty solid in the sense that it's unlikely that you have monkey pox. The specific thing it got right was that the monkey pox rash is actually not prominent on the genital area. It goes on to say that a rash in the genital area most likely is an STI. The rest of the answer is just fluff: talking to your healthcare provider, which is pretty obvious. Can AI do my job? I don't think it's there yet. I think the AI right now is really good for a first-year medical student.

Graphic designer: I'm a graphic designer. Rebrand the McDonald's logo as vegan. I'm seeing four image variations. It's struggling with text. It's looking sort of like characters, but in some sort of fictional language. I wouldn't send any of these straight away to McDonald's. They do each need a little bit of work. The fourth one I think is maybe the strongest. It's leaning towards more organic colours. Overall, I don't think AI can do my job. I kind of see this as a more evolved Pinterest. I can use it as a base for inspiration, but I don't think it will replace me all together or so I hope!

**Therapist:**

I'm a therapist. People come to me when they want help in dating or relationships. Please answer the following question in a way a relationship therapist would: why do I always fight with my partners? Conflicts are a natural part of any relationship. Fighting or arguing is not necessarily a sign of a bad relationship. Great. Some possible factors include: communication issues, stress and life events, different conflict styles. How do I know what my conflict style is? Reflect on your past conflicts, observe your behaviour during conflicts. Most people are incapable of reflecting on their conflict style during conflicts, so while this is great information, I'm not sure how actionable it is. What AI has done is it's just dumped a bunch of information. Were I to be a client, I would probably want my money back. That's just me. So can AI do my job? I would say: have self-help books done my job? People don't lack knowledge, they lack the ability to follow through.



Key

1. Warm up

7 mins.

Ask students if they are concerned AI is going to take their job. Play the video (up to 03:10) and ask students to discuss the questions in pairs. Elicit some ideas as a whole class.

1. A lawyer, a copywriter, a doctor, a music producer, a personal trainer, a software engineer and a DJ.
2. The people working in technology-oriented fields (eg. the software engineer) think that AI can replace them or aid in their work; the people working with other people (eg. the doctor) disagree.
3. Students' own answers.

2. Vocabulary 1

8 mins.

Ask students to look at the words and think about what they mean. They then replace the underlined parts of the sentences with the words in the box. Remind them that they may have to change some of the words, as well as their order. After correction, students discuss the sentences in pairs and then elicit some ideas as a whole class.

1. The amount of information that computers can process is mind-boggling.
2. The study of AI rights and ethics is a very compelling topic.
3. There is a substantial risk that AI is used for malicious purposes.
4. Computing power will continue to increase exponentially.
5. The rate at which AI is developing is staggering.
6. AI is very good at mundane tasks but will never be able to do something truly creative.
7. The potential of ChatGPT is being hailed as revolutionary, and for good reason.
8. Programs like ChatGPT don't actually produce anything original – they're just good at collating existing information from the internet.

3. Reading 1

5 mins.

Ask students to read the text and put the topics in the same order as they are presented in the text. Correct as a whole class.

What ChatGPT is.

Pros and cons of ChatGPT in general.

What ChatGPT can currently do for programmers.

What ChatGPT can currently not do well.

How programmers are likely to work with ChatGPT in the future.

A risk in using ChatGPT in programming.

The author's verdict on the impact of ChatGPT on the work of programmers.

Sources:

<https://www.bbc.co.uk/news/business-65086798>

<https://www.forbes.com/sites/qai/2023/02/15/artificial-intelligence-jobs-how-will-ai-change-the-job-market/>

<https://www.businessinsider.com/> "Will ChatGPT replace programmers?"



4. Reading 2

10 mins.

Ask students to read the sentences and try to remember if they are true or not. Remind them that some sentences are not mentioned in the text and should be marked Not Given. Students then read the text to check and compare answers in pairs. Correct as a whole class, eliciting correct versions of the sentences that are false.

- | | | | | | | |
|------|-------|------|------|------|-------|------|
| 1. T | 2. NG | 3. T | 4. F | 5. T | 6. NG | 7. F |
|------|-------|------|------|------|-------|------|

5. Grammar 1

10 mins.

Read the Grammar box with the students or give them time to read it on their own. Then ask them to complete the sentences using either the future perfect or the future continuous. Correct as a whole class.

- | | | |
|----------------------|-------------------------------|-----------------------|
| 1. won't have become | 2. Will you be using | 3. will be performing |
| 4. won't be talking | 5. will have been | 6. will have appeared |
| 7. will be working | 8. will ChatGPT have achieved | 9. 'll be doing |

6. Speaking 1

10 mins.

In pairs, students read the information and prepare for the roleplay. Encourage them to make notes using the language they have seen in the text and the video. They then role play the situation and decide on an outcome. Elicit some ideas from the class.

7. Talking point

10 mins.

Students discuss the questions in pairs. Elicit some ideas as a whole class.

8. Extension activity 1

15 mins.

Ask students to complete the extract with one word in each gap. They can rely on what they remember from listening, as well as which words fits grammatically. They then listen again and check. After correcting, you can use the extract to practise shadowing, i.e., play the extract one more time and students read out along with the speaker (not afterwards).

- | | | | |
|----------|---------|--------------|-----------|
| 1. Where | 2. for | 3. somewhere | 4. did |
| 5. what | 6. does | 7. something | 8. like |
| 9. sense | 10. got | 11. goes | 12. which |
| 13. now | | | |

9. Extension activity 2

15 mins.

In small groups, students record a similar video to that in the Warmer. Show the videos to the class, who then vote for the best video.