Leveraging AI

- ✓ Generative AI Tools
- ✓ Limitations of AI
- ✓ Plagiarism
- ✓ Appropriate Use Cases

Leveraging AI

You probably won't lose your job to AI.

You will however, be competing for jobs with Developers who:

- Can code without querying AI.

- Understand the limitations of generative AI.

- Use AI effectively to learn, and improve efficiency.

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Generative AI Tools

Let's look at Chat GPT 3.5

As coders, we might be tempted to ask Chat GPT to generate code for us, and on the surface, it can produce astounding results.

https://chat.openai.com/

Let's see what happens when we ask it to produce a simple front end website.

Start with this query:

"Give me the HTML and CSS code for a basic, single page frontend website that has a h1 heading of "My AI Generated Site", A nav bar with a 3 links to home, gallery and about sections and some nice navy and white high contrast styling. Make the header and middle gallery section navy to break up the page."

Generative AI Tools

Copy and Paste the code from ChatGPT to the HTML window in the JSfiddle Code Editor

https://jsfiddle.net/

Wow! Instant results right?

Well yes, but not quite.

Let's see if we can notice how this isn't quite perfect.

Think about how we could only get these results by knowing what to query in the first place!

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Limitations of AI

Let's have a quick quiz!

Find a word that can go between these two words to make two new words.

Tea   _____? Bulb

Now let's ask ChatGPT The same Question!

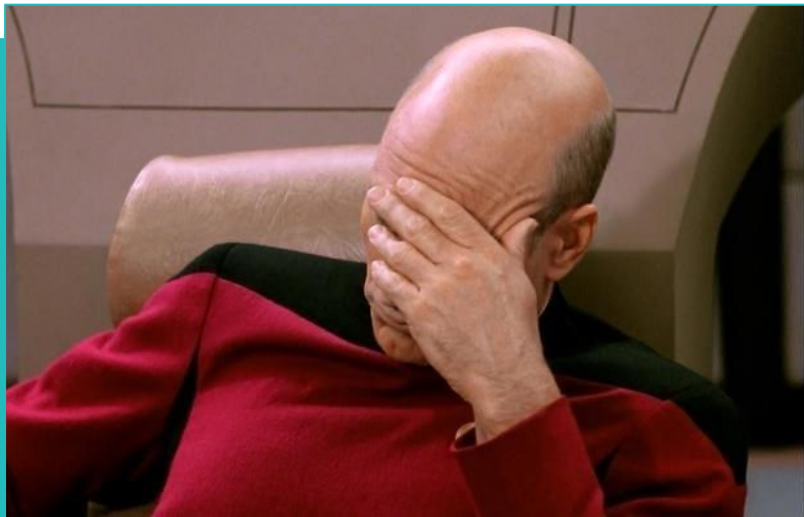code
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Limitations of AI

Let's play again!

Find a word that can go between these two words to make two new popular phrases.

Bottle   _____?   *Holiday*

Now let's ask ChatGPT The same Question!

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Limitations of AI

- **Chat GPT often produces incorrect or inefficient code!**

- **Chat GPT can often fail to answer basic questions. (See previous example)**

- **Constantly querying Chat GPT will impede your ability to learn valuable coding, debugging and problem solving skills.**

- **AI can often produce code without considering the ethical implications. Not including accessibility tags for example shows a negative bias against people with disabilities.**

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AI & Plagiarism

If we use code from Chat GPT and try to pass it off as our own work then this will fail to meet academic plagiarism guidelines.

AI Generated code is easily detected.

Copy the scripts from the following files and use a tool like
https://www.duplichecker.com/ai-content-detector.php

To see which code is AI generated.

1:
https://github.com/davidcalikes/Marvelous-Matching/blob/main/assets/js/myscript.js

2: USE CHAT GPT TO GENERATE SOME JS CODE

Appropriate Use Cases

- ✅ Generate creative text content,

  (Menu's, taglines, text adventure stories)
- ✅ Generate Images
- ✅ Explain abstract coding concepts &

  programming paradigms like recursion & OOP.
- ✅ Breakdown code blocks and explain what's

  happening on each line.
- ✅ Writing Unit Tests
- ✅ Debugging

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ChatGPT

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Know your sources

Knowing what an AI response is based on helps ensuring that it is correct.

Ask:

Is the response based on a reputable source (i. e. Stack Overflow, W3School, etc)?

There are AI tools which provide the sources it bases it's response on:

✓ **Perplexity**

✓ **Phind**

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Random opinions that we love

Sometimes strangers on the internet make a good point...

AI generation when writing software is a false economy. You are replacing writing code with code review. Code review is harder and requires you to already have an understanding of the domain which often means that you would've even able to write it yourself to begin with. If you code gen something because you don't know how to write it yourself, you by definition cannot review it without going though an effort equivalent to writing it yourself in the first place.

Unless of course you don't care about code review and so doom yourself into treating software like magical incantations that break randomly for no perceivable reason; but no good mage would do that, surely.

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