Critical Thinking for Testers in the age of AI

Steve Watson, January 2026

Intro

I have worked in testing for over 35 years across a variety of industries

I am a Senior Quality Engineering Manager at easyJet

I am a conference speaker and blogger at *stevethedoc.wordpress.com*

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When I am not testing, I present a weekly radio show in the south of England

Steve's jumped on the 'AI' bandwagon!

Kind of, but this isn't just a talk about AI...

…It's about co-existing with AI

AI seems to be everywhere, we cannot escape it, so we must learn to use AI tools appropriately.

I assume most of you are using AI in some form.

Are you sceptical or do you love it?

Let's go on a journey to see how we as testing professionals can successfully work with AI tools.
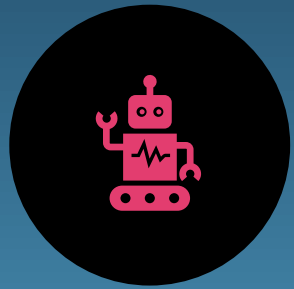
As humans we are new to using AI.

We are adapting from telling a computer what to do, to collaborating with it.

But we are naturally lazy and look for shortcuts

And this will cause us problems:

Future generations are growing up with AI embedded in their lives, and they will become reliant on it for daily tasks.

Early studies show that an **increased reliance on AI tools** is linked to **diminished critical thinking abilities,** affecting **memory, attention span, and problem-solving abilities**.

The future will be defined by those who can think critically, plan strategically and adapt quickly.
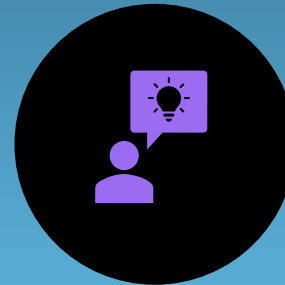
AI models and data sources that are created by a **select few** introduces **bias**.

Imagine its 2036…

➢ And you need to write an email, but you can't without AI doing it for you:

  ➢ You can only give basic instructions to an AI tool.
  ➢ You cannot determine whether the output is appropriate or not.
  ➢ You struggle to work out the pros and cons yourself.

➢ Or after using AI to create an executive summary, you cannot explain the detail or backup any claims made.

Why should we care as testers?

A reliance on AI without validation means missing inherent biases and making decisions based on possibly flawed data models
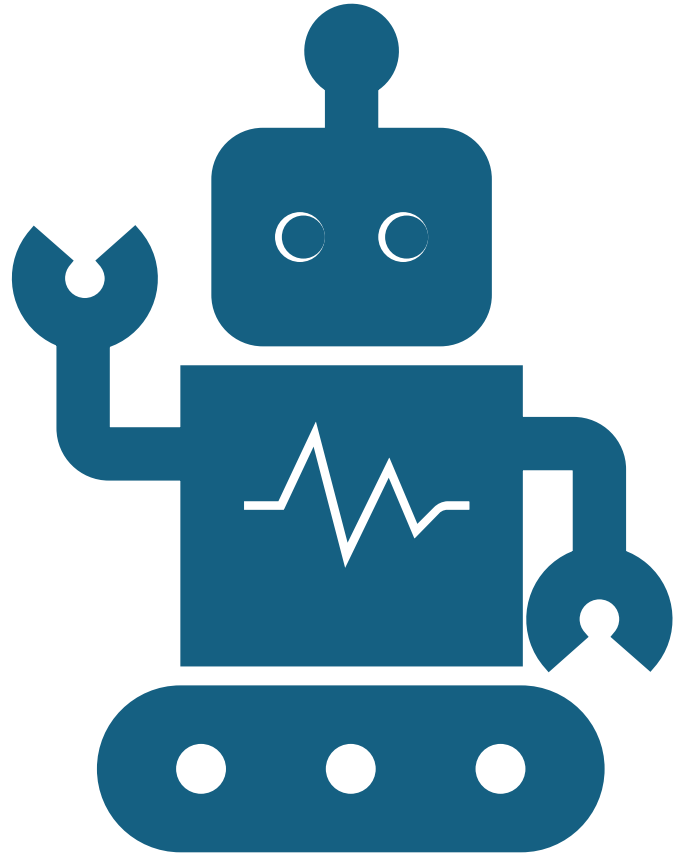
As we rely more on AI to make decisions for us, our ability to make our own judgements decreases

Live with AI and thrive!

We need to embrace AI, but remain sceptical of it

Leverage AI as a powerful tool to **augment** our human critical thinking abilities – not replace them

Context is key! The more info you give, the better results you receive

Apply the same scrutiny as you would with any other source of information

What do we mean by Critical Thinking?

- ***Critical thinking is the art of making clear, reasoned judgements based on interpreting, understanding, applying and synthesising evidence gathered from observation, reading and experimentation.***
Burns, T., & Sinfield, S. (2016)

- I.e. the ability to **interpret, evaluate, and analyse**.

- Critical thinking and analytical skills are vital tools, especially for test professionals.

- But we aren't as good at enhancing these skills as we are our technical ones.

Applying this as testers

Problem-solving is your most important skill as a critical thinker.

Use your knowledge and understanding of the application and ecosystem to:

- Test the **output** of AI
- Check how AI arrived at its **answers**
- Consider any **assumptions** made
- Consider what could have been **missed** in any artefacts generated by AI
- And don't forget about **biases**

Remember, AI is fallible…

AI doesn't understand motivations – e.g. why you want to know something

AI has no filter! If you scan a photo and ask AI to say if you look younger or older than your age, it will just give you a flat 2D answer.

AI has been likened to an **18-month-old child** who cannot understand emotions.

AI tools **cannot filter out biases –** its **OUR** job to ensure that AI usage and output is fair to all.

"Treat it like a knowledgeable team member, the person you would always go to for advice"

Adam Bacon, easyJet

Try out with a problem you can't solve

Ask the tool some **questions** and **drill down** into the answers.

Examples -

- Look for an online xyz starter course that is less than 1 hour, with video examples, no exam questions, delivered in English, and with subtitles.

- Find a holiday for 4 people with different interests – beach, city, sightseeing & sport, in Summer 2026, flying from London for 14 days, and costs between x & y GBP.

- Use AI to summarise some data that you have and present it in different formats – ie defect analysis.
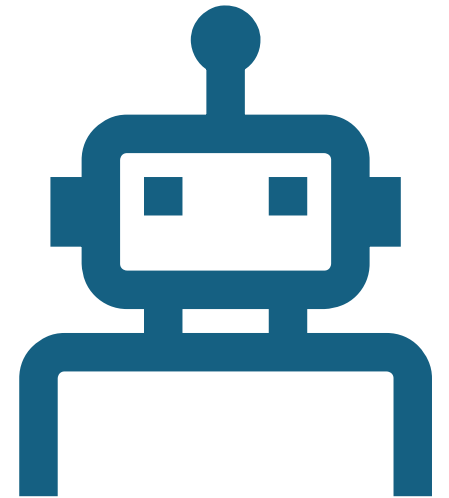
Use Personas to help

"Assume the role of a skilled copywriter. Your responses should focus on offering advice and guidance on writing effective, persuasive, and engaging copy for websites, advertisements, and social media"

"As a sales manager, collate the last 3 months profit by region for an area sales director. Explain in summary terms the profit drivers"

Same task, different personas

"As someone in their 20s, what are the top 5 attractions in Ibiza between July and September"

"As a family of 5 people, with 3 children aged 5, 7 and 11, what are the top 5 attractions in Ibiza between July and September"

Think about the tone

"Write a draft in a formal tone"

"Be polite but less formal"

"Keep the language welcoming and friendly"

How I have used AI...

I used CoPilot to help with wording and suggest better layouts using the data that I provided.

I treated the suggestions as helpful advice, made my own changes and incorporated what was useful.
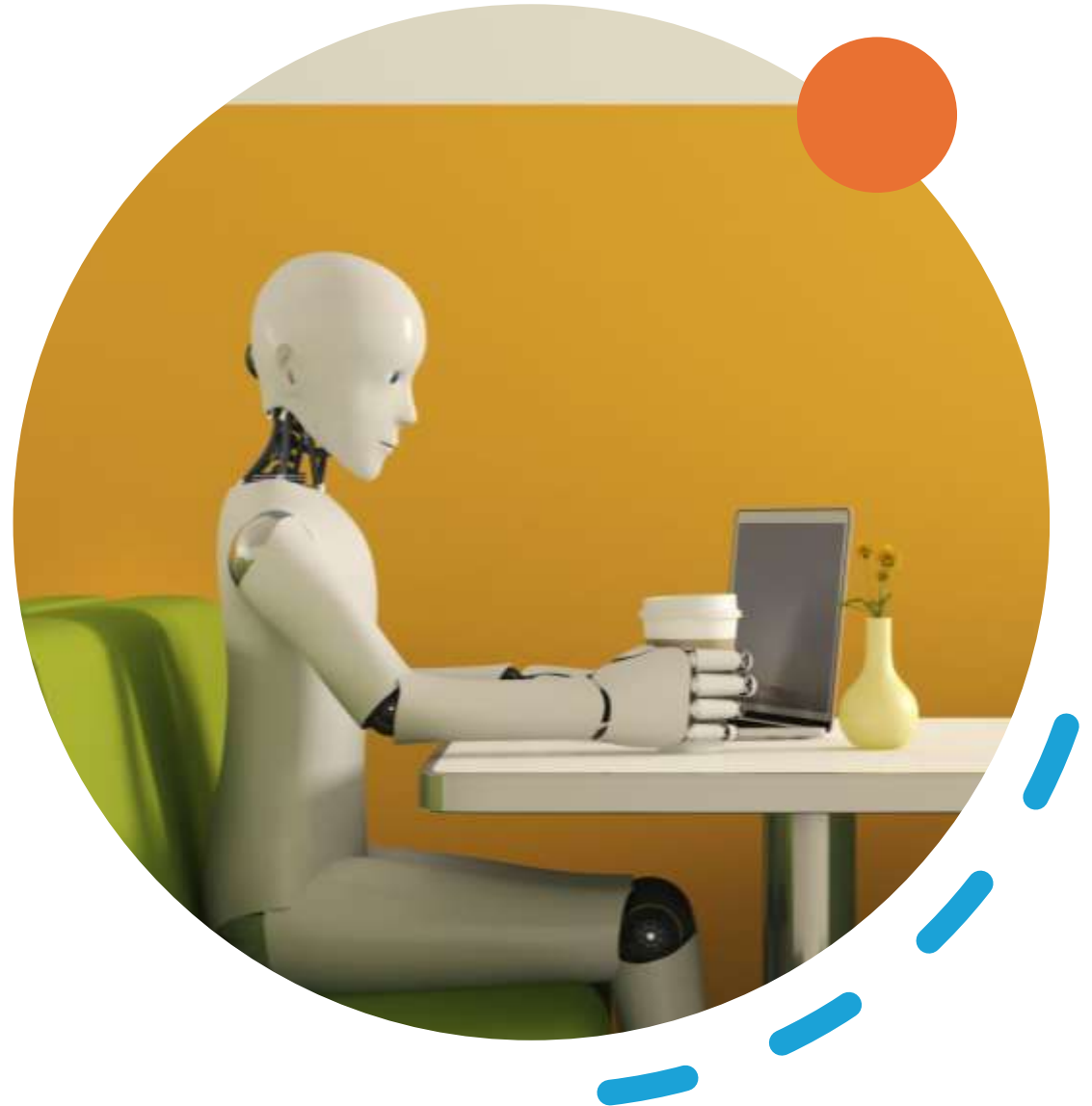
Where I ask AI for an answer or opinion based on its own data source, I verify everything!

I still need to think for myself ☺

In summary

- AI provides an incredible opportunity for us

- It is a tool to help us, not take over

- It is fallible, and only as good as the data source(s) it uses

- Embrace it, showcase your work and guide others

- Challenge AI use without human oversight!

- And remain just that little bit sceptical ☺

References

- Forbes - https://www.forbes.com/sites/chriswestfall/2024/12/18/the-dark-side-of-ai-tracking-the-decline-of-human-cognitive-skills/>

- Microsoft https://www.microsoft.com/en-us/research/wp-content/uploads/2025/01/lee_2025_ai_critical_thinking_survey.pdf

- Melbourne University - https://pursuit.unimelb.edu.au/articles/as-ai-gets-smarter,-are-we-getting-dumber

- BBC article 'Are these AI prompts damaging your thinking skills?' December 2025 -https://www.bbc.co.uk/news/articles/cd6xz12j6pzo

Thank you!

Any questions?