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Next-Gen (Ai) Testing



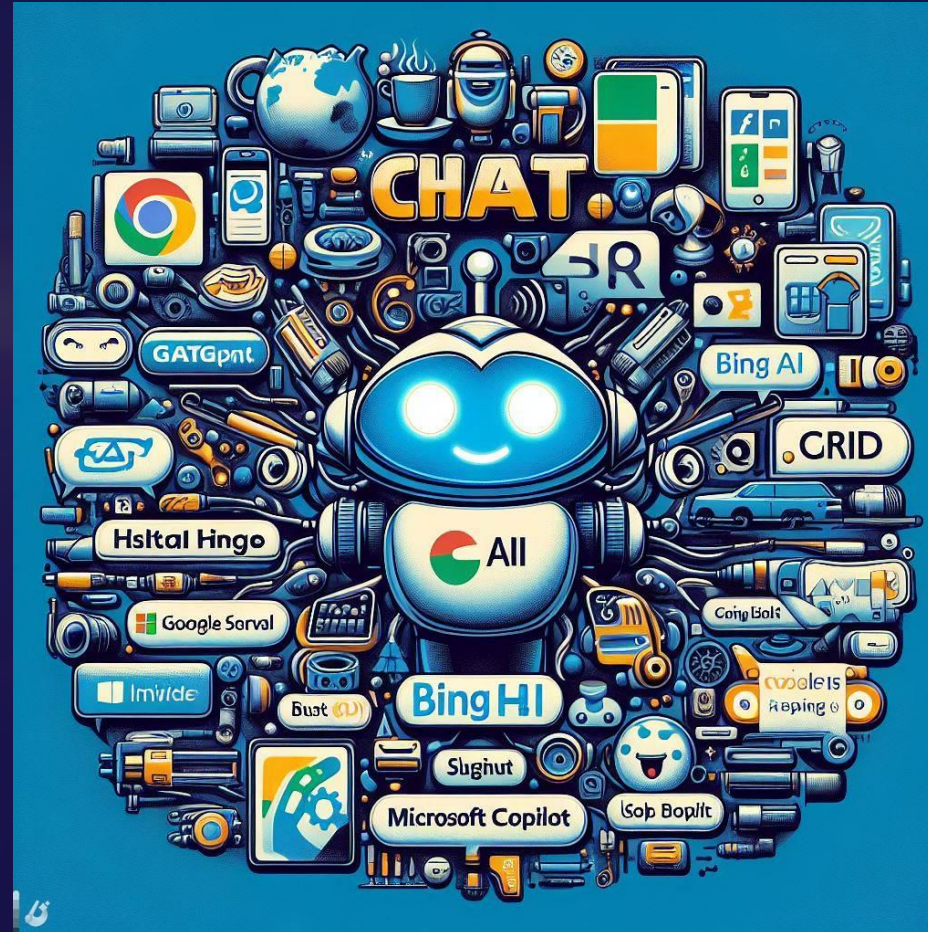
By Ashwin Palaparthi
<https://ai4testers.com>

AGENDA



- ✱ A quick snapshot of how Generative Ai is set to advance Software Testing
- ✱ And the Galaxy of Copilots (Gen Ai tools)

The “plethora” of Gen-Ai Tools

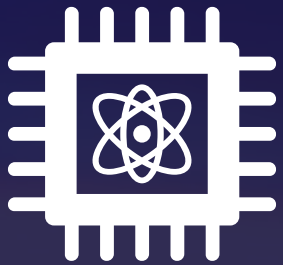


Generative Ai in Testing?

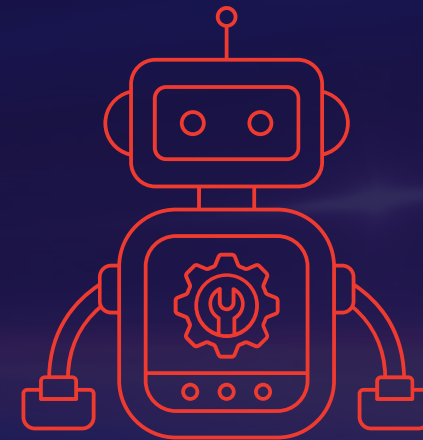


- ✱ Generative Ai is not just “Classic AI” or “Automation”.
- ✱ It is NLP at its peak!
- ✱ Real user-experiential testing.

The *real* move from Digital to Analog in Systems (*both pun and real*)



**Classical Computing – 0 or 1
at any given state (binary)**



**0101
1001
0110**

**Quantum Computing – 0
and 1 at the same time
(Qubits – Superpositions)**

**Generative Ai – Anywhere
between 0 or 1, Both in
Classical and Quantum
Computing 😊**

Semi-literate Prompts



Prompt: Brother and Sister playing Chess, South Indian ambience, highly detailed, photorealistic lighting, 3D, full length.

<https://www.bing.com/images/create>

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Literate Prompts

Prompt: Brother and Sister playing Chess, South Indian ambience, highly detailed, photorealistic lighting, 3D, full length. **Make sure that the Chess Board is logically accurate.**

<https://www.bing.com/images/create>



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Sensible Prompts



Prompt: Brother and Sister playing Chess, South Indian ambience, highly detailed, photorealistic lighting, 3D, full length. Make sure that the Chess Board is logically accurate, and they must look South Indian.

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Humanized approach for “confusion matrix”

Prompt: A Software Tester has found an issue in the application and does not know whether it is a bug or a feature. Thinking whether to report it or not, because the developers may get rude if it is not a bug.

<https://www.bing.com/images/create>

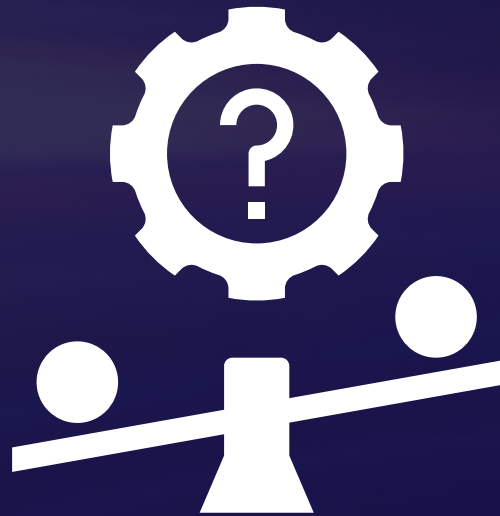


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Bias? We are the bias!



- ✱ True Positives
- ✱ True Negatives
- ✱ False Positives
- ✱ False Negatives

GIGO – Garbage in Garbage out



Generative Ai in Testing?



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Core Testing and Generative Ai

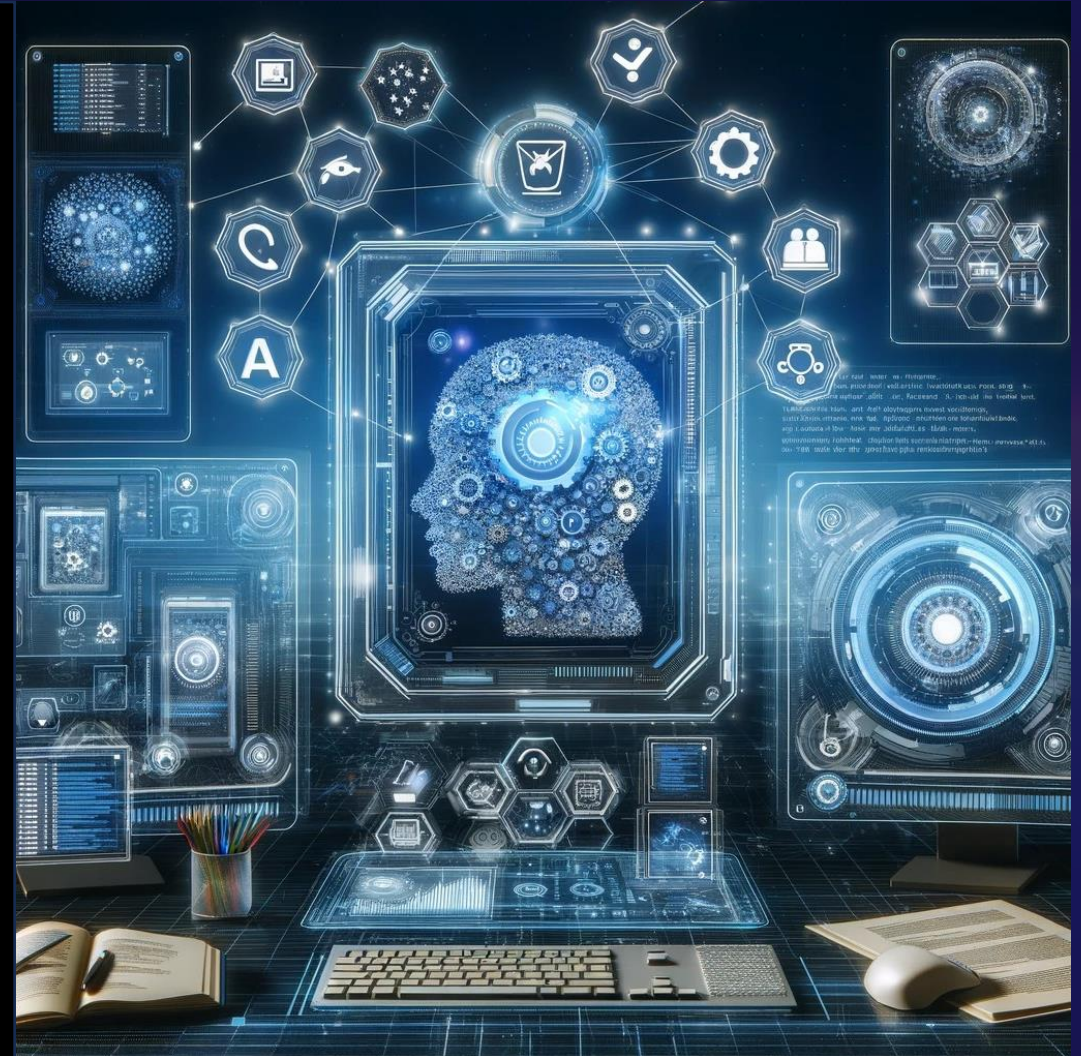


Enhancing Test Design - Creating diverse and comprehensive test “ideas”.

Exploratory Testing++

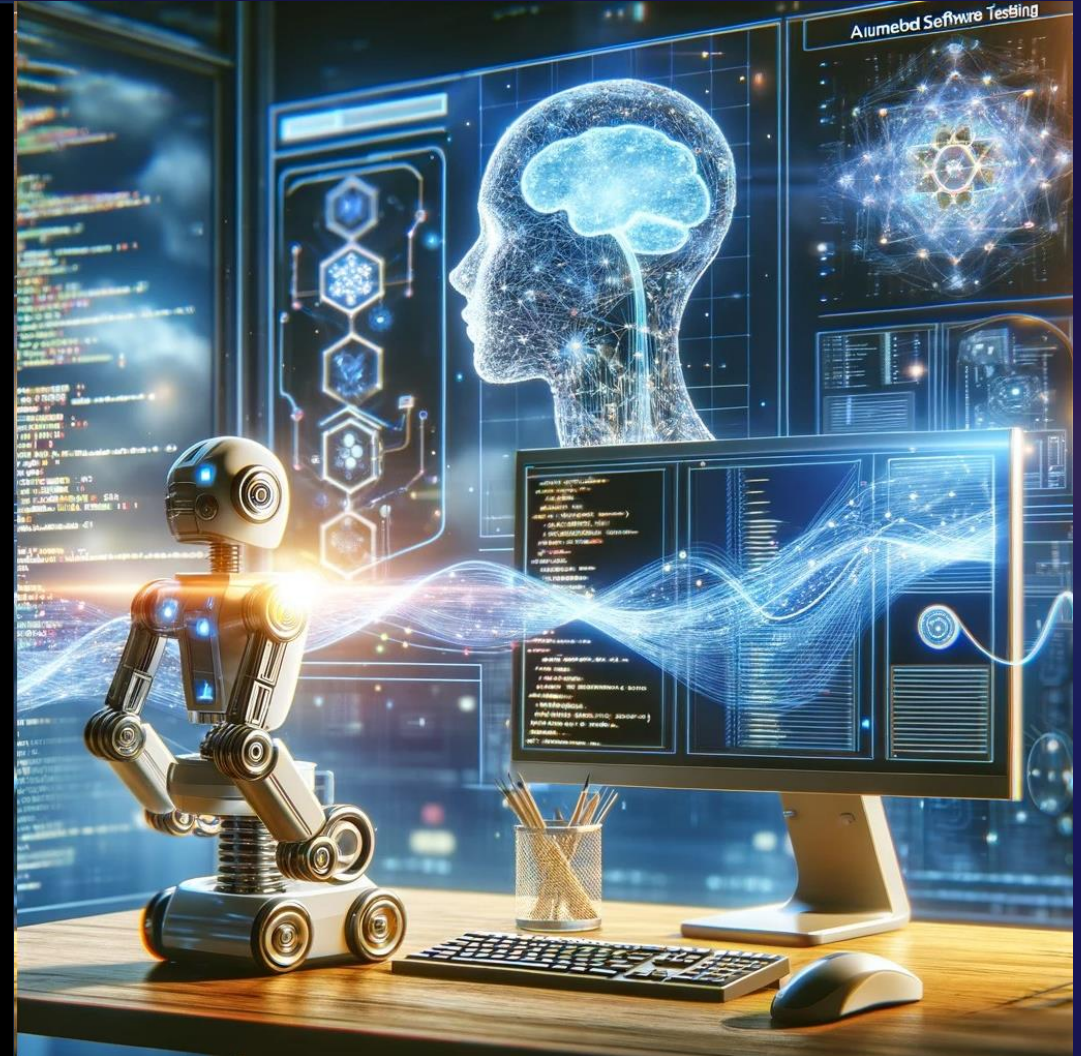
Improving Test Efficiency - Optimal test strategies and identifying areas of high risk.

User Experience Testing - Validating realistic user behaviors and scenarios (human-centric manual testing) 😊

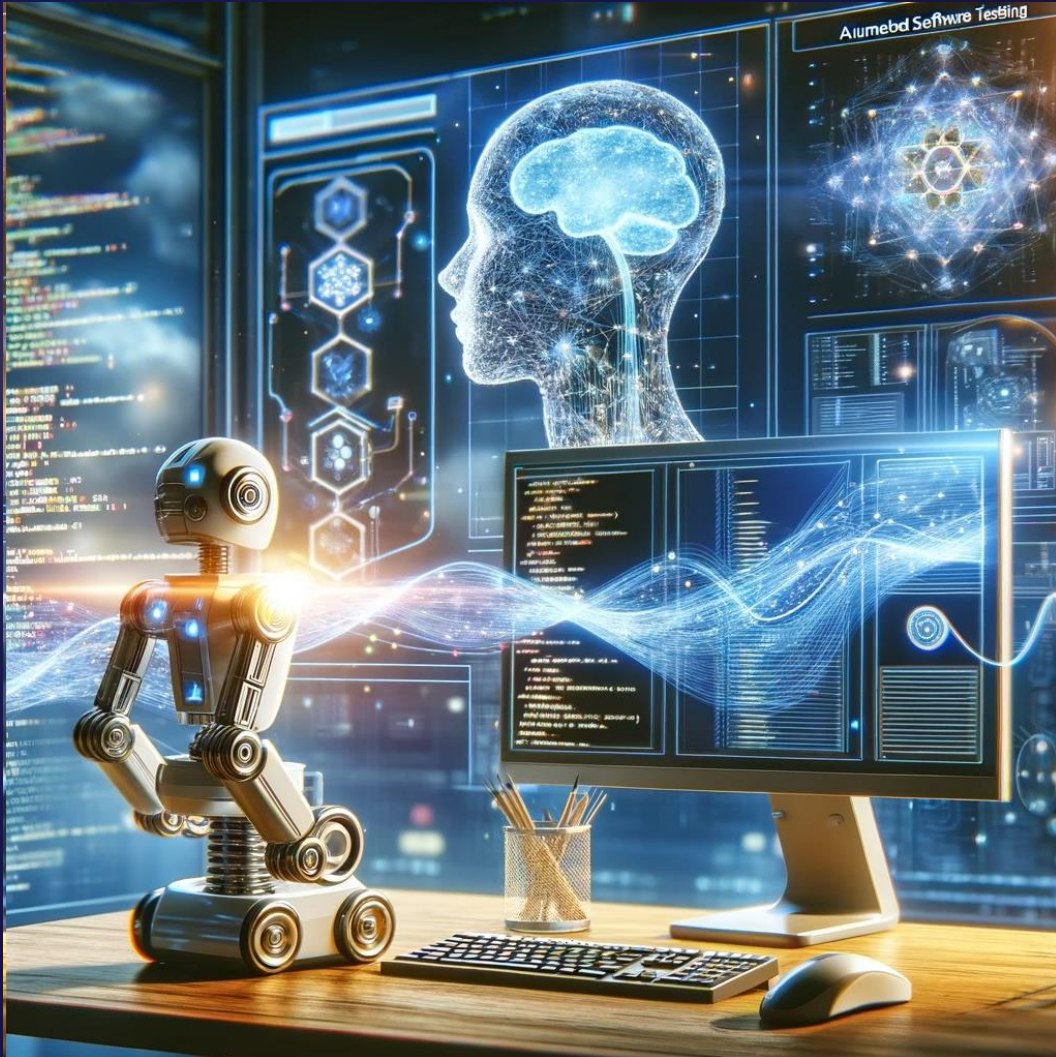


Automated Testing and Generative Ai

- ✓ **Automated Test Case Generation Tools**
- Streamline “code generation” with Ai efficiency.
- ✓ **Ai-Powered Test Execution and Monitoring Tools** - Optimize testing with real-time Ai insights.
- ✓ **Codeless Automated Testing Platforms**
- Easy, code-free Ai-driven testing.

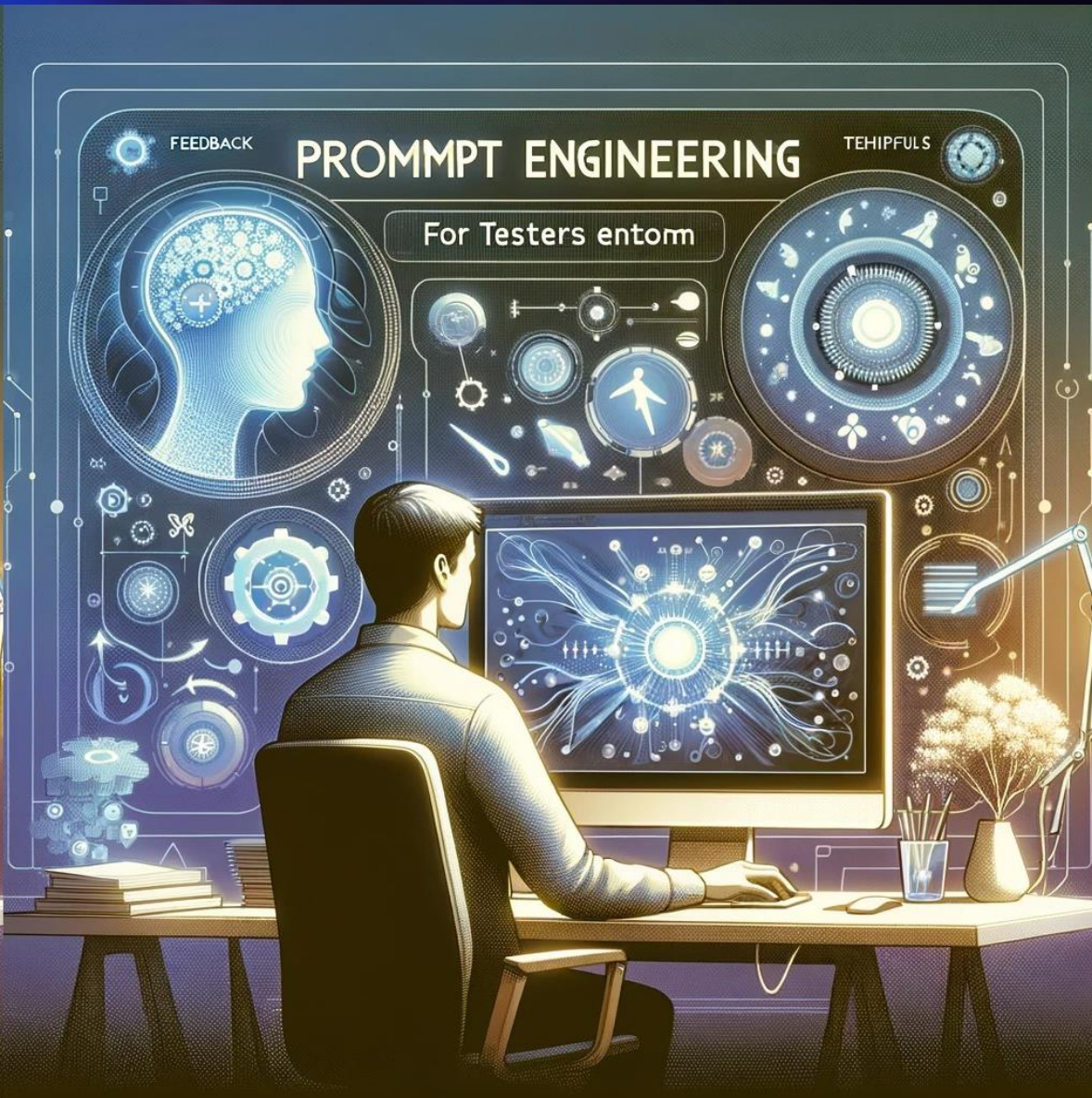


Automated Testing and Generative Ai



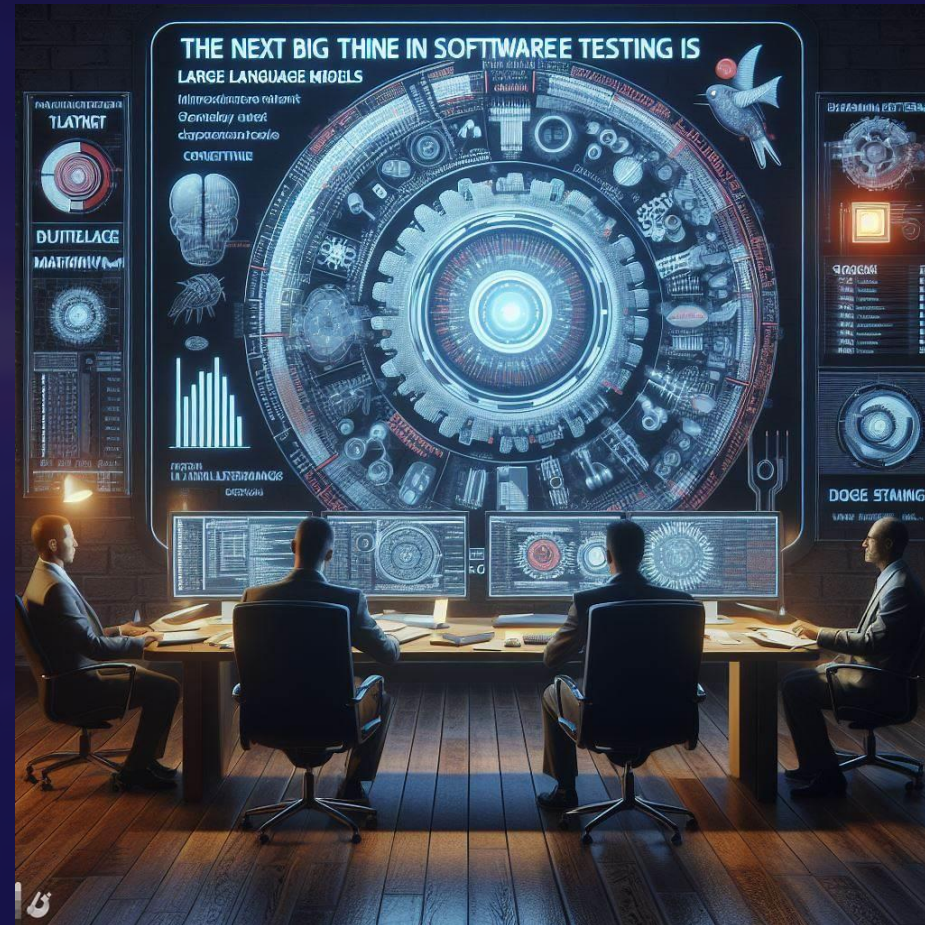
- ✓ **Bug Detection and Analysis - Ai for smarter bug detection and reporting.**
- ✓ **Predictive Analytics - Forecast testing needs/urgency using Ai analytics.**
- ✓ **CI/CD Pipeline Integration - Mutate and run Test Cycles.**

Prompt Engineering



- ✦ Structure
- ✦ Detail
- ✦ Conditions/Rules
- ✦ Context and Ethics
- ✦ The “art of asking”
- ✦ Feedback loops
- ✦ Iterations
- ✦ *and...*
- ✦ WCGR!

QE Bots and “customized” Large Language Models (LLMs) - The next Big Thing!



Thank You Ashwin Palaparthi

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<https://ai4testers.com>

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