

Question: 用你Demo的AI Agent软件去检测产品缺陷，和直接用通用LLM去检测产品缺陷有什么优势和劣势？两者检测原理的主要区别在哪里？(Dùng phần mềm AI Agent mà bạn demo để kiểm tra lỗi sản phẩm, so với việc dùng mô hình ngôn ngữ lớn (LLM) thông thường để kiểm tra lỗi thì có những ưu điểm và nhược điểm gì? Sự khác biệt chính trong nguyên lý phát hiện lỗi giữa hai cách này là gì?)

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## I. Using a Single LLM: (孤掌难鸣)

- The result depends on the general knowledge the model has learned during training.
- It only uses pre-trained data to give answers.

### Pros:

- Simple system, easy to build.

### Cons:

- Needs a lot of data to train the model.
  - Not intelligent; lacks reasoning and problem-solving abilities.
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## II. Using a Multi-Agent System:

- The result depends on structured reasoning done by all agents in the system (e.g., RAG, Planning).

### Pros:

- The system can "think" and take actions using scientific and structured processes (like Chain-of-Thought, Reasoning to Action, Reflection, Inner Monologue, etc.).
- Better at reasoning, verifying, decision-making, and solving problems compared to a single LLM.

### Cons:

- Complex system with multiple components working together, which may cause delays.
  - Needs ongoing research in reasoning technologies to improve intelligence.
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## Error Detection Principle:

Even if we train YOLO with a lot of images, it can still detect things incorrectly.

### How to solve this?

#### Solution:

Cut out the image regions detected by YOLO and send them to a **vision-agent** to generate descriptions.

(Note: The vision-agent only describes what it sees. It doesn't decide if the result is OK or NG.)

Finally, a **reasoning-agent** takes those descriptions from the vision-agent and performs the final reasoning step to decide if the product is really OK or NG.

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