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Introduction to the ReAct Framework

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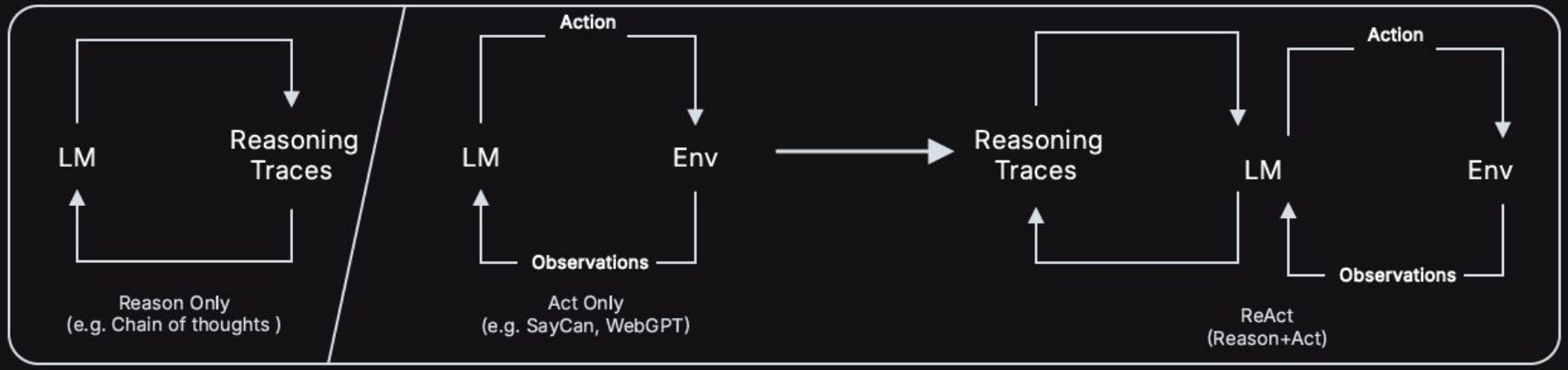
What is the ReAct Framework?



- **Prompting patterns** like Chain-of-thought enables LLMs to reason better.
- **Tools & techniques** like SayCan, and WebGPT enable LLMs to take better actions.
- **ReAct** aims to **combine both of these elements** to empower LLMs to **reason and take action**.

Note: ReAct was first mentioned in the famous paper, 'ReAct: Synergizing Reasoning and Acting in Language Models' in March, 2023.

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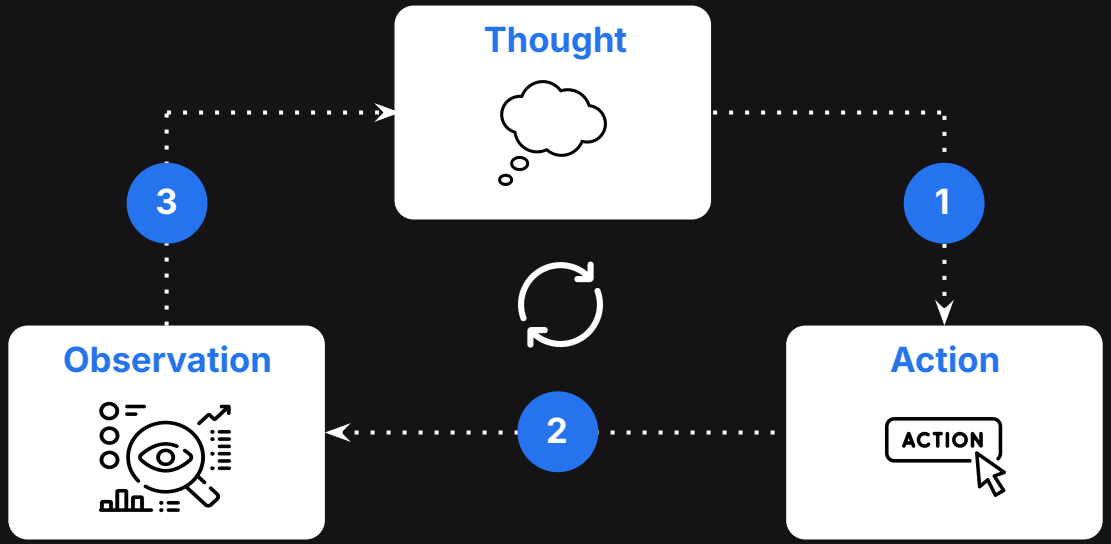
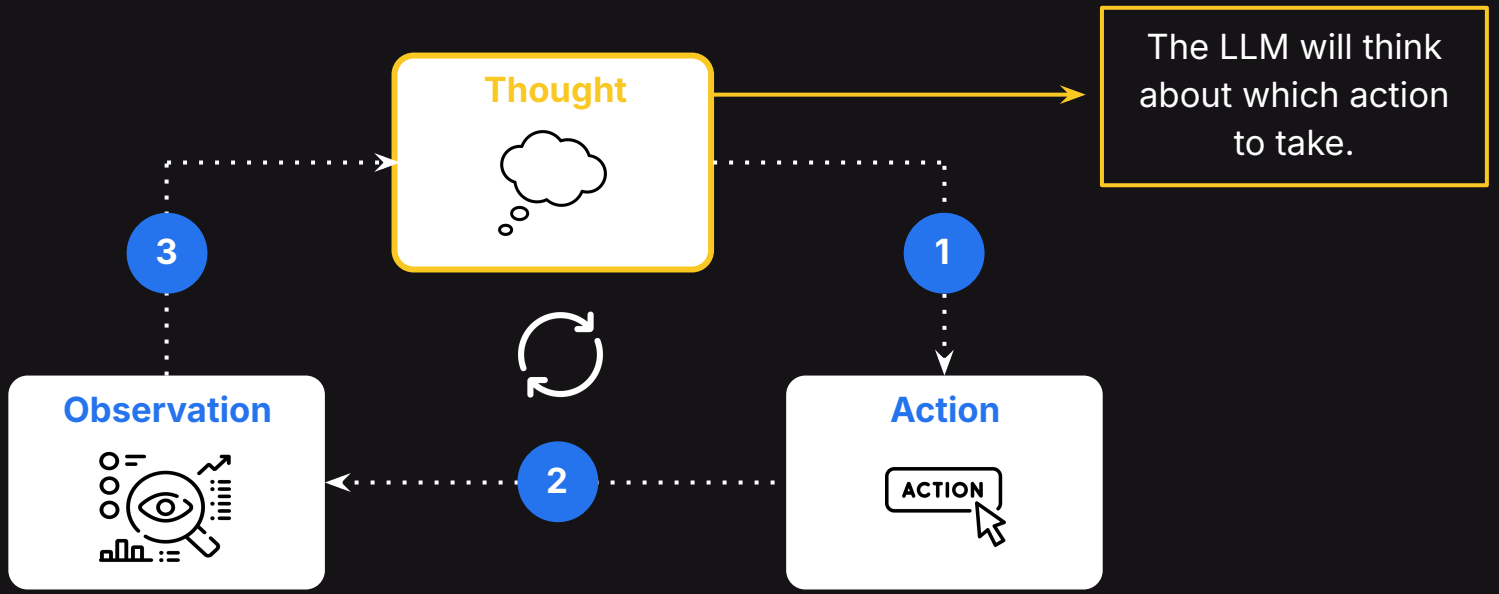
Introducing the ReAct Technique

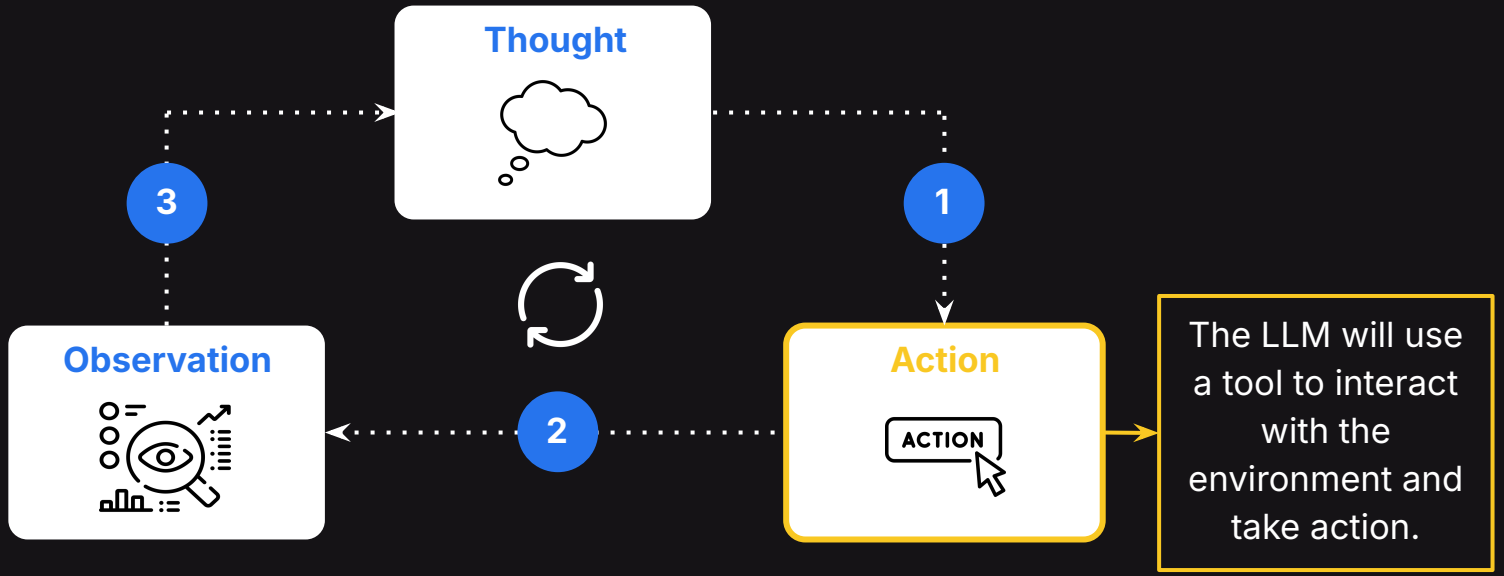
In the ReAct technique, the LLM is allowed to perform three operations:



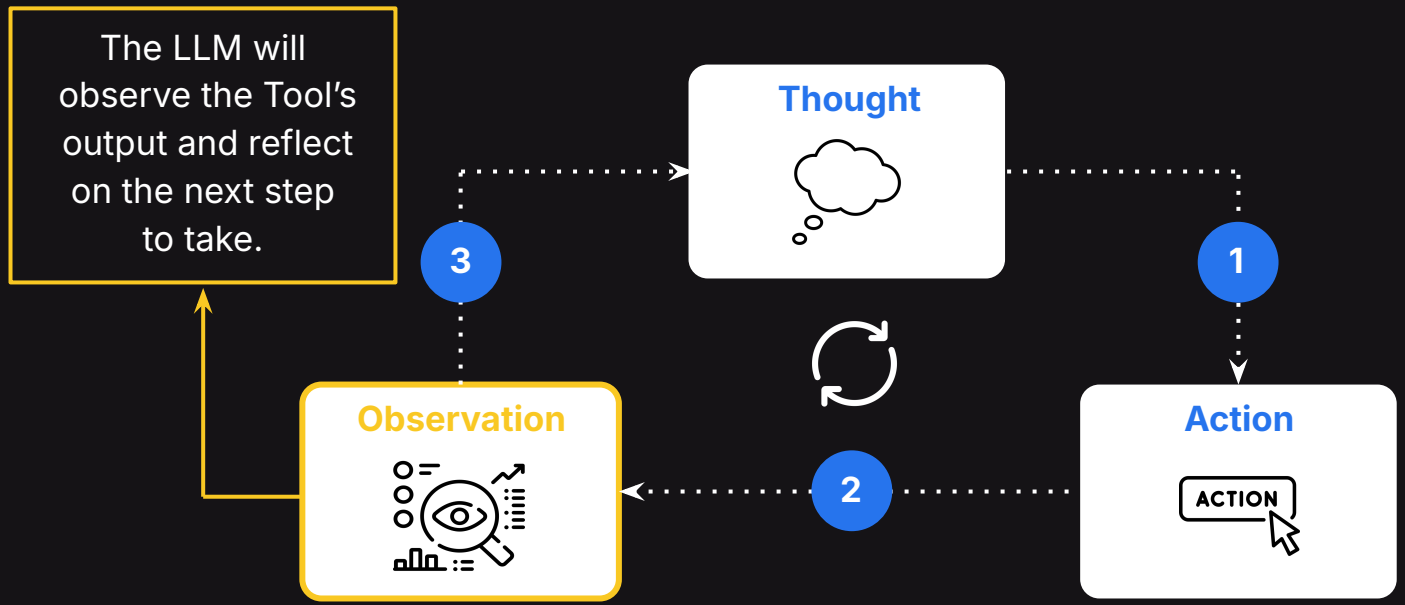
Introducing the ReAct Technique



Introducing the ReAct Technique



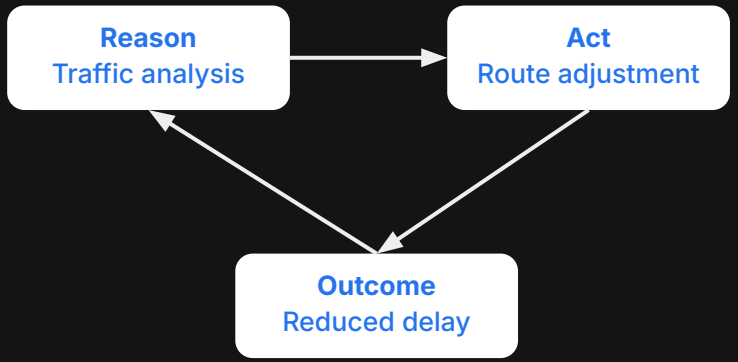
Introducing the ReAct Technique



What Does It Mean to Combine Reasoning with Action?

- AI systems analyze situations and make **immediate decisions,** creating a continuous cycle of adaptation and execution.
- This enables real-time adjustments, ensuring actions are informed and responsive to dynamic environments.

Example: Smart Traffic Management



Benefits of the ReAct Framework

Adaptability

Enables AI agents to respond to changing environments and unforeseen challenges.

Efficiency

Reduces delays by integrating reasoning and action in real-time workflows.

Improved Decision-Making

Combines long-term planning with immediate responses for balanced and effective outcomes.

Applications of the ReAct Framework

Autonomous Systems

Robots navigating unpredictable environments dynamically

AI Assistants

Virtual assistants managing multi-step tasks with real-time adaptation

Logistics Optimization

Systems planning delivery routes while responding to traffic updates

Thanks!

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