

# AI AGENTS AND LLM

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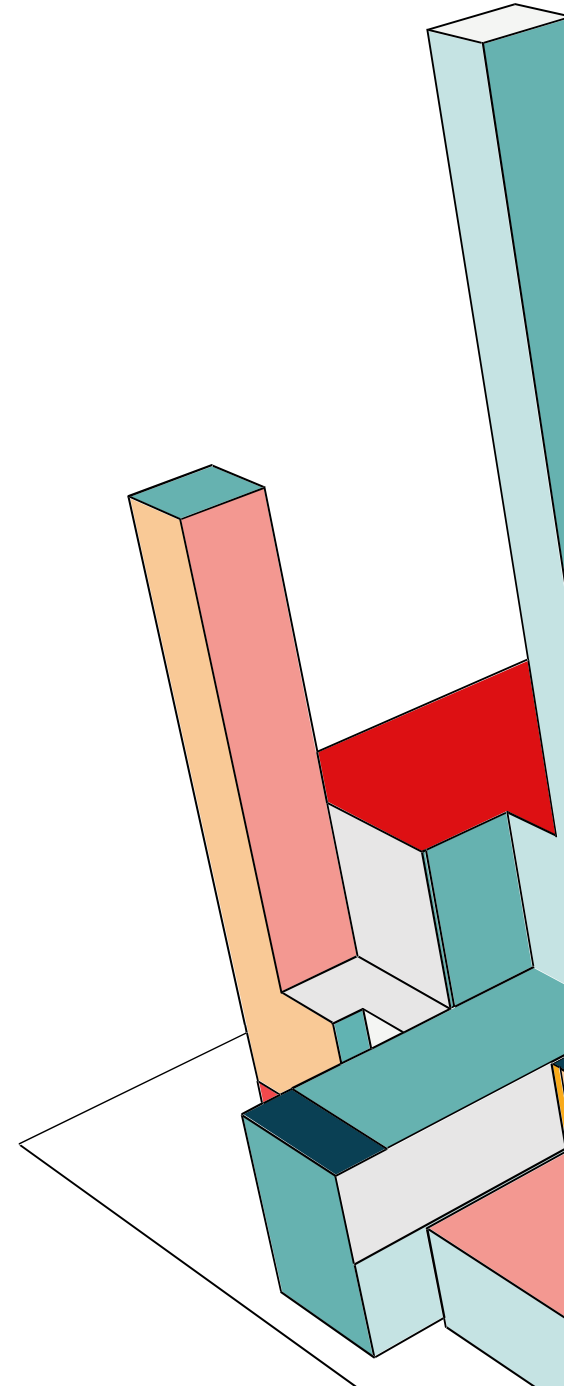
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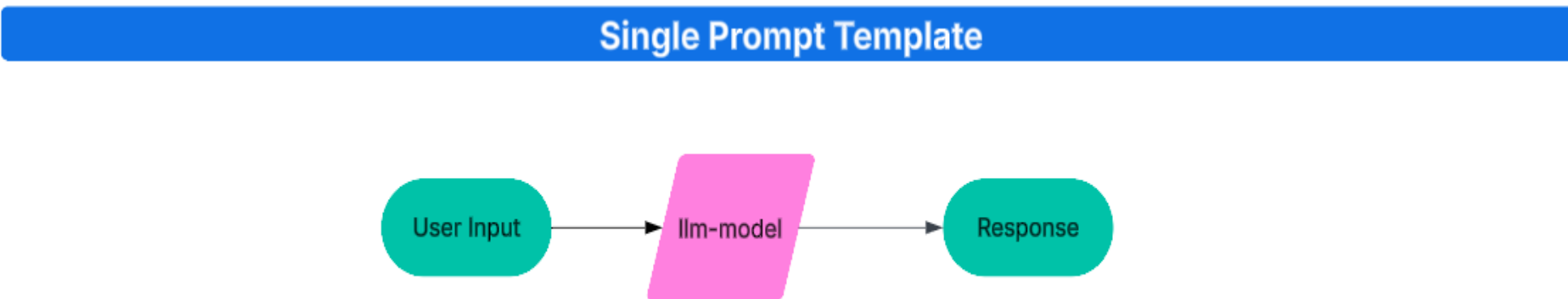
# NEXT GEN AI APPLICATIONS

- The future of AI is driven by LLMs (Large Language Models) and AI agents that can autonomously **reason, learn, and act**. These systems will power intelligent applications that go beyond simple chatbots, enabling **automation, decision-making, and multimodal interactions**.
- **Autonomous AI Assistants** → AI agents that handle **complex tasks**, such as scheduling, research, and financial planning, by interacting with APIs, databases, and users.
- **AI-Powered Developers (Code Agents)**
- **Multimodal AI (Text, Image, Video, Speech)**
- **AI for Autonomous Businesses** → AI agents that **automate workflows, customer support, and decision-making** in e-commerce, healthcare, and finance, reducing human intervention.

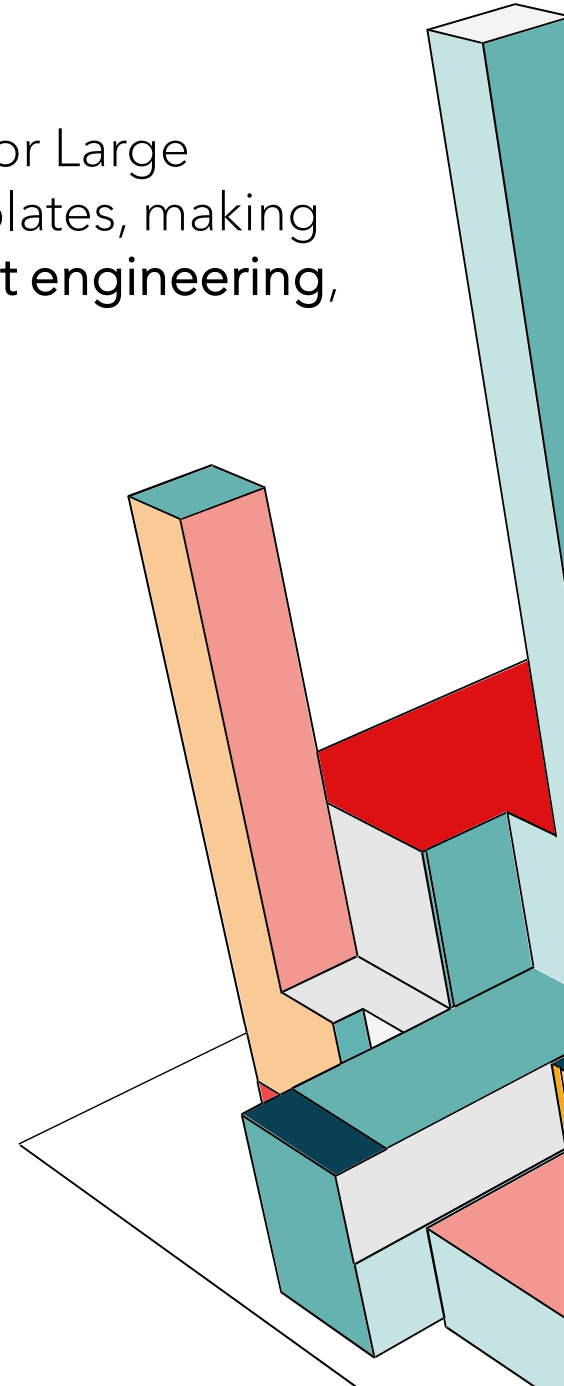


# LLM - PROMPT AND RESPONSE - LANGCHAIN

A `PromptTemplate` in LangChain is a structured way to **define reusable prompts** for Large Language Models (LLMs). It allows **dynamic input insertion** into pre-defined templates, making interactions **more structured and consistent**. This approach helps **improve prompt engineering**, ensuring **better responses** from LLMs.



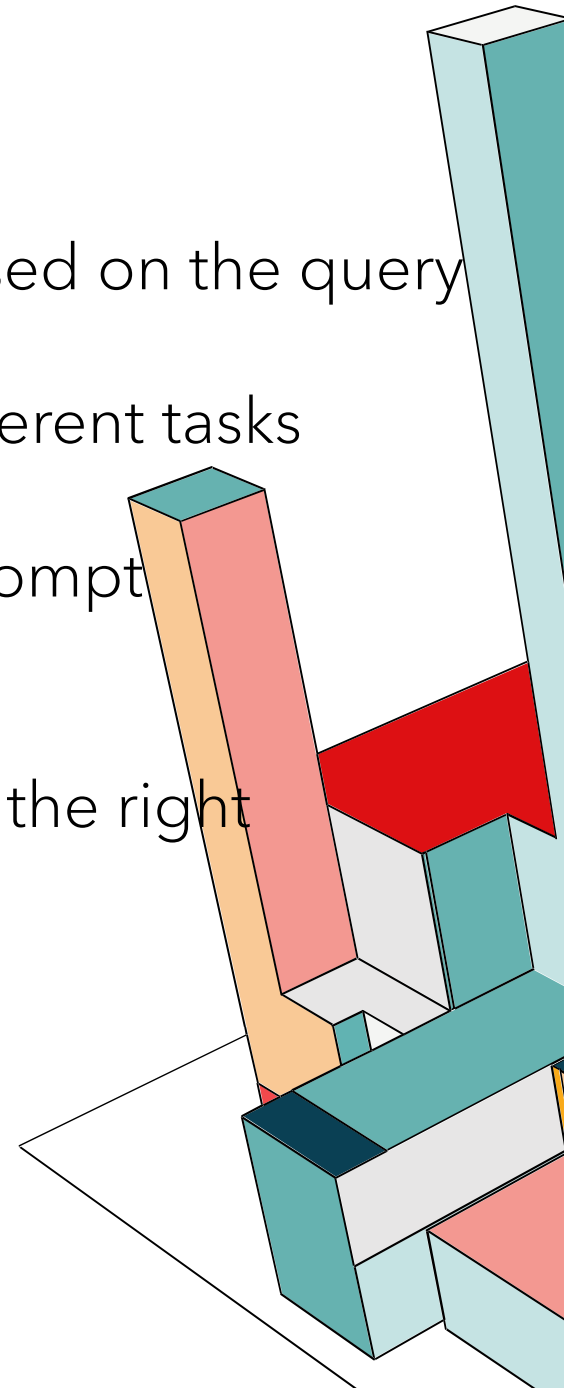
**\*\*Better and well crafted LLM prompts produces desired output**



# LLM – PROMPT ROUTING - LANGCHAIN

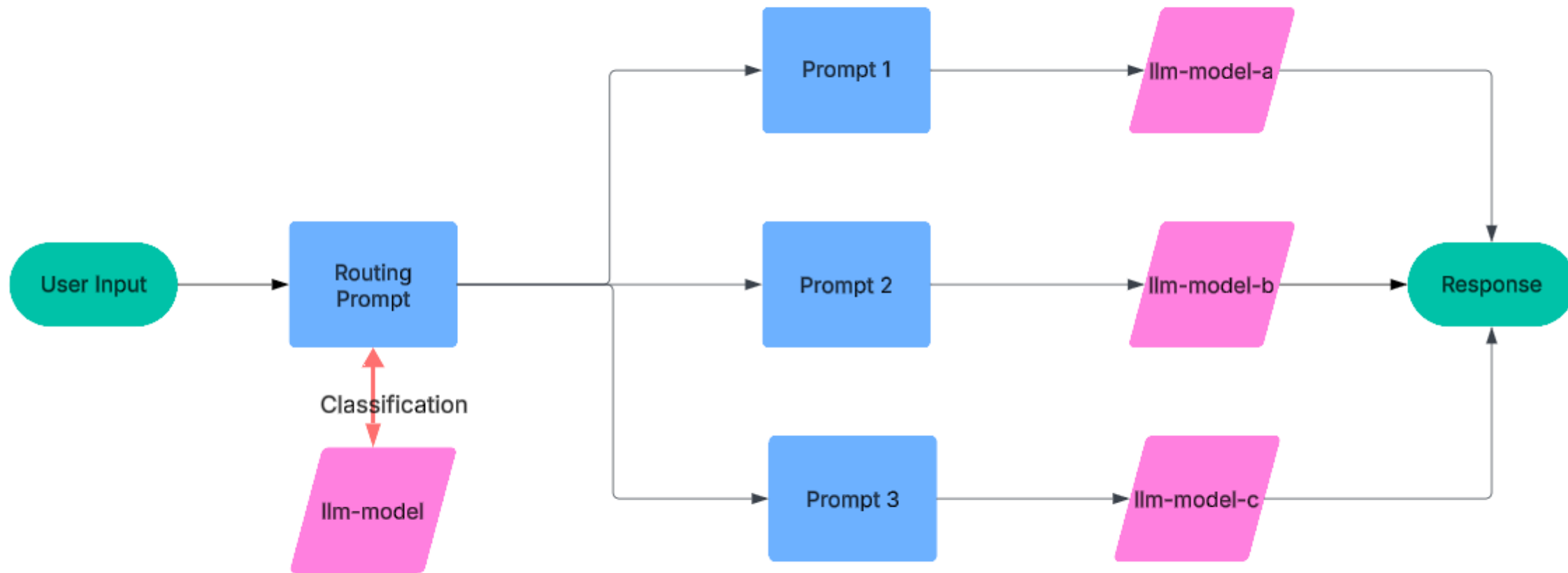
- **Prompt Routing** dynamically selects the best prompt template based on the query type (e.g., physics, math, translation).
- **Multi-Prompt Template** allows different structured prompts for different tasks within a single system.
- **LLMRouterChain** classifies the input and routes it to the correct prompt dynamically.

This approach **improves accuracy and response quality** by ensuring the right prompt is used for the right query.



# LLM – PROMPT ROUTING - LANGCHAIN

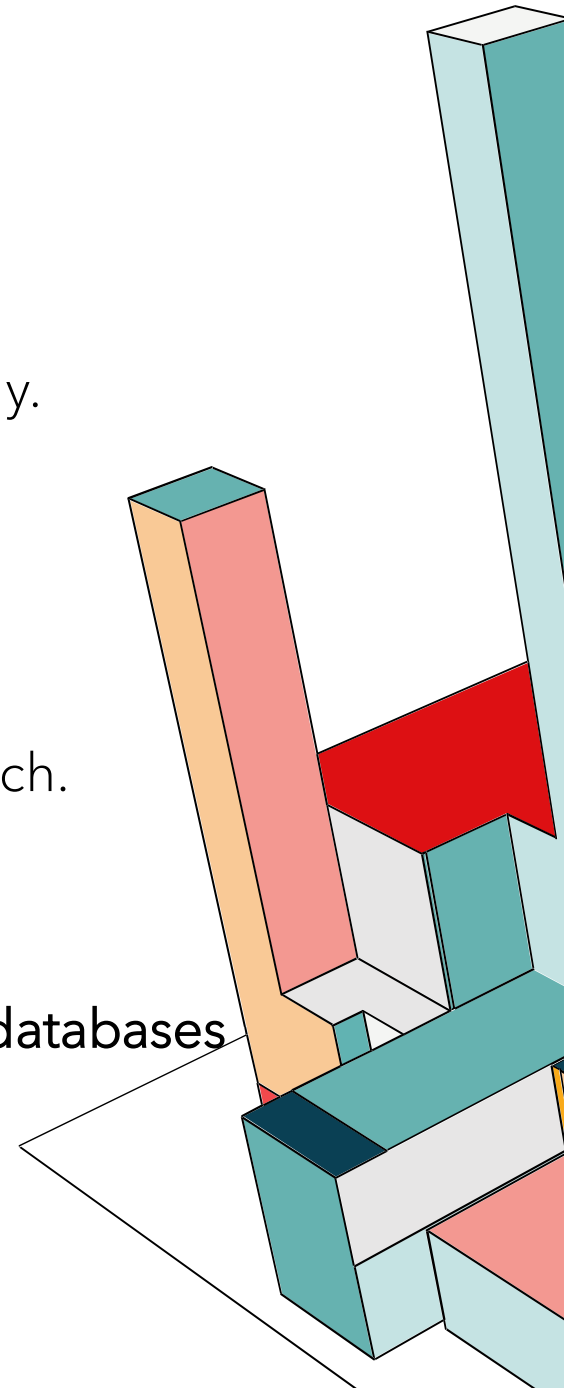
## Multiple Prompt Routing using Templates and Routers



Ilm can be same of multiple depending upon orchestration

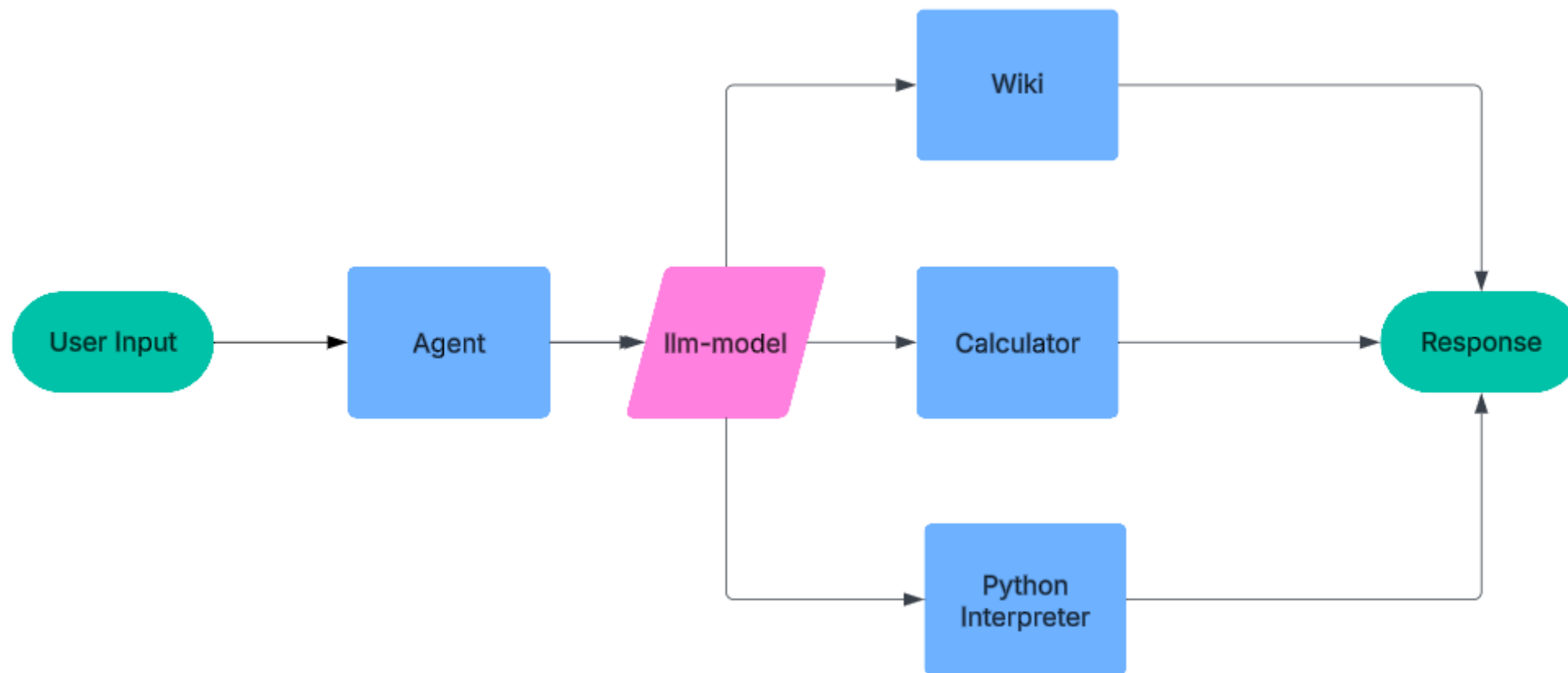
# AI AGENTS

- **AI Agents** in LangChain are systems that use **LLMs to make decisions** dynamically.
- Unlike static chains, **agents decide which actions to take** based on the input.
- Agents can **call external tools** like APIs, Python functions, databases, or web search.
- The **LLM analyzes user input** and selects the appropriate tool automatically.
- Tools in LangChain include **Python execution (PythonREPLTool), wikipedia, and databases (SQLDatabaseTool)**.



# AI AGENTS

## Agent and Tools with LLM





**GIT REPO - [HTTPS://GITHUB.COM/KINJALJOSHI/AIAGENTS](https://github.com/KinjalJoshi/AIagents)**

**THANK YOU**