

IT2025 Supplementary Note 05

November 28, 2025

1 Roles of an LLM : Interface & Interpreter

Due to the advancement of large language models, like ChatGPT and Gemini, and their associated foundation models, various application systems could be easily developed in the form of agents to facilitate business process automation. Figure 1 shows the stack of these modules.

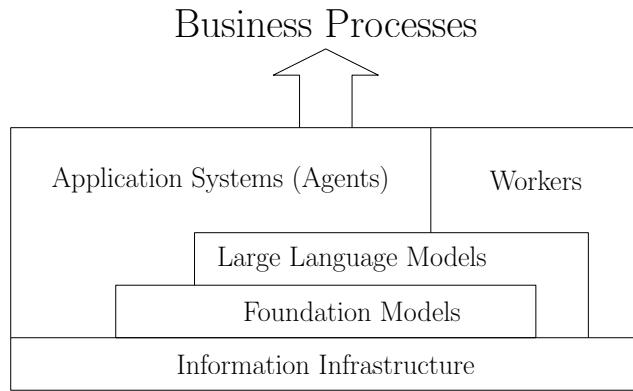


Figure 1: The stack of LLM and agents. LLM plays the vital role in business process automation and re-engineering.

1.1 Information Infrastructure

The layer *information infrastructure* includes the Internet, the telecommunication networks, the database systems, cloud platforms, computers and others. This layer provides services to support the upper layers in terms of data/information storage, data/information processing and numerical computation.

1.2 Foundation Models

The layer *foundation models* covers a number of generative AI models, including LLMs, LRM, text-to-image generators, text-to-video generators, text-to-audio generators, translators. These foundation models provide services mainly to support the *LLM layer* and the agents.

1.3 Large Language Models

Each LLM in the layer *large language models* acts as an interface¹ in between the application systems (resp. workers) and the foundation models (resp. information infrastructure). Workers

¹An LLM acts as a programming language interpreter. For a program its commands are coded by an interpreted language, the interpreter converts each command to a machine code sub-routine and then executes the sub-routine right the way. Afterward, the interpreter converts and executes the next command. The process repeats until no more command left.

benefit the most from the LLM as each LLM is able to understand human language. To instruct an LLM to complete a simple task, a worker can simply type the instructions in natural language and then the LLM will do it accordingly. A worker does not have to learn any new programming language.

1.4 Application Systems (Agents)

The *application systems* are responsible for completion of those jobs which are pre-assigned. In simple words, each application system is an agent. It acts on behalf of a worker to complete a job which is used to be completed manually.

2 From a Project to a Master Thesis

Now, some of you have almost completed a sound report. These reports cover your experiences in the use of some AI tools for certain simple tasks. So, these reports can be considered as some case studies. To make your work to be excellence. You can try to answer the following questions.

1. Am I the first one interested in this task? If no, who have done similar work as me and what have they found.
2. Would there be any academic research related to my work? If yes, what the points are they claimed?
3. What are the similarities and differences between their works and mine?
4. Could my work be made more completed? How?