

Applied Deep  
Learning

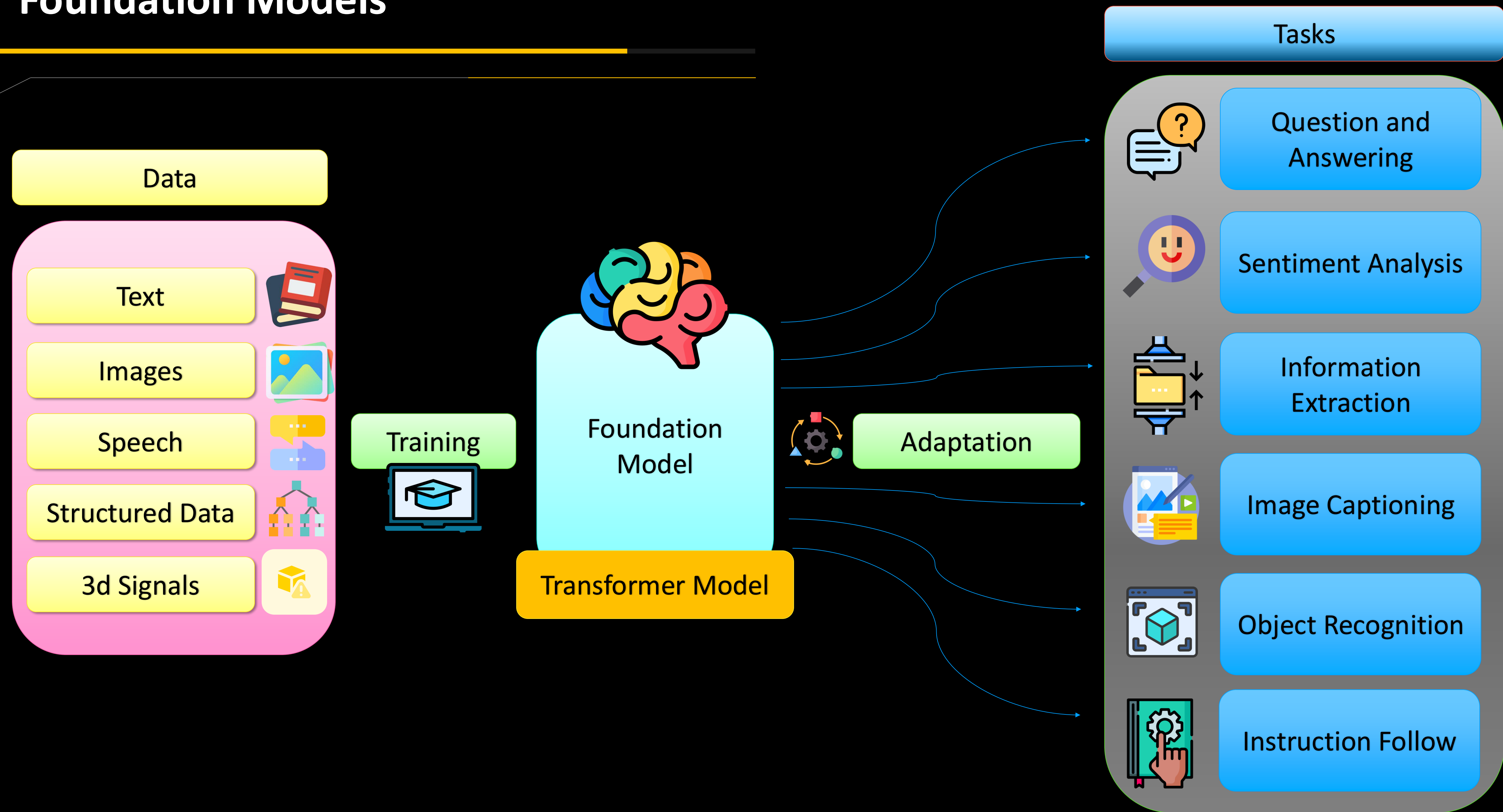
5350 GenAI Intro

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**<https://github.com/iptortilla/lowcode>**

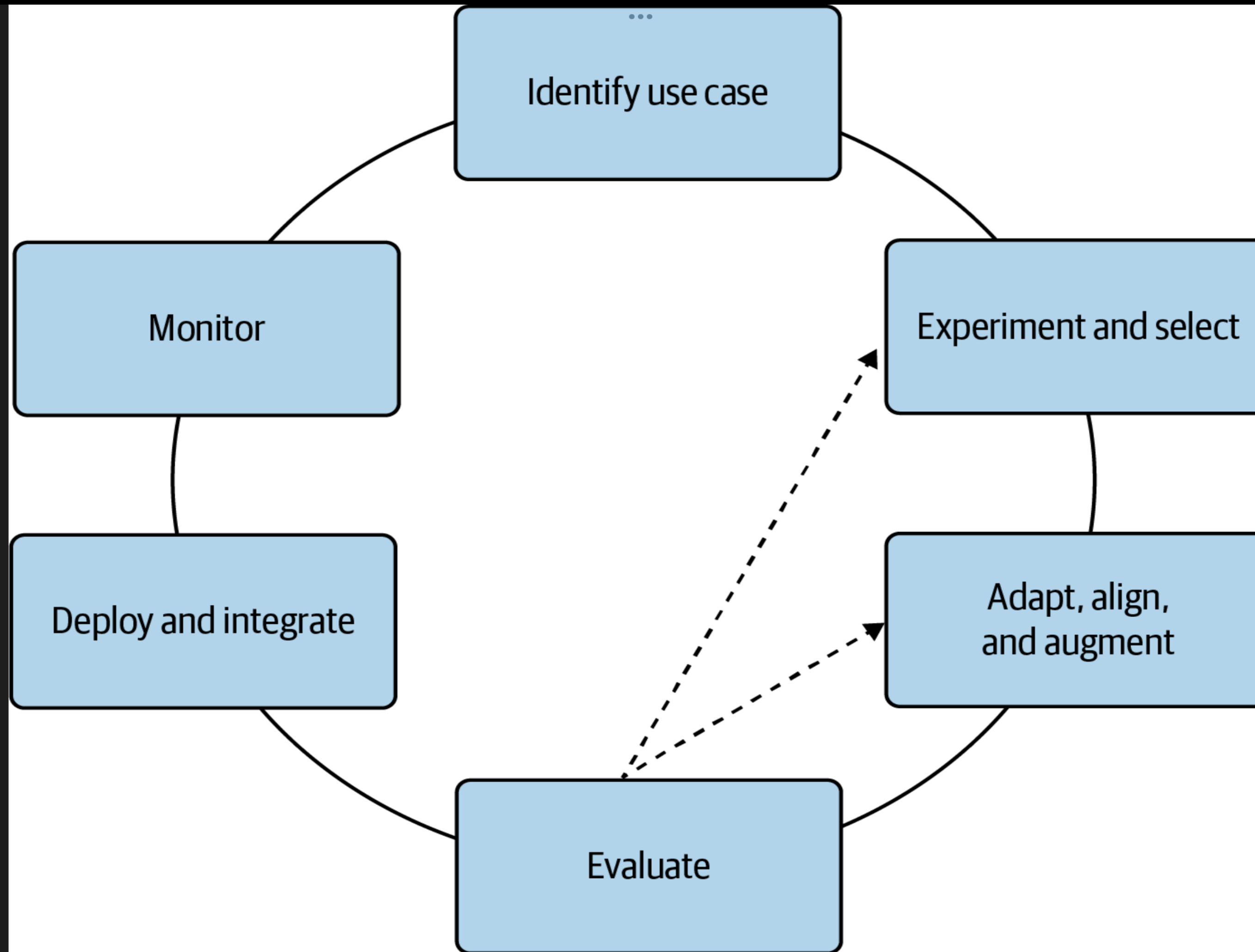
# Foundation Models



- Intros
- ChatGPT 101
- Business Examples
- Exercise

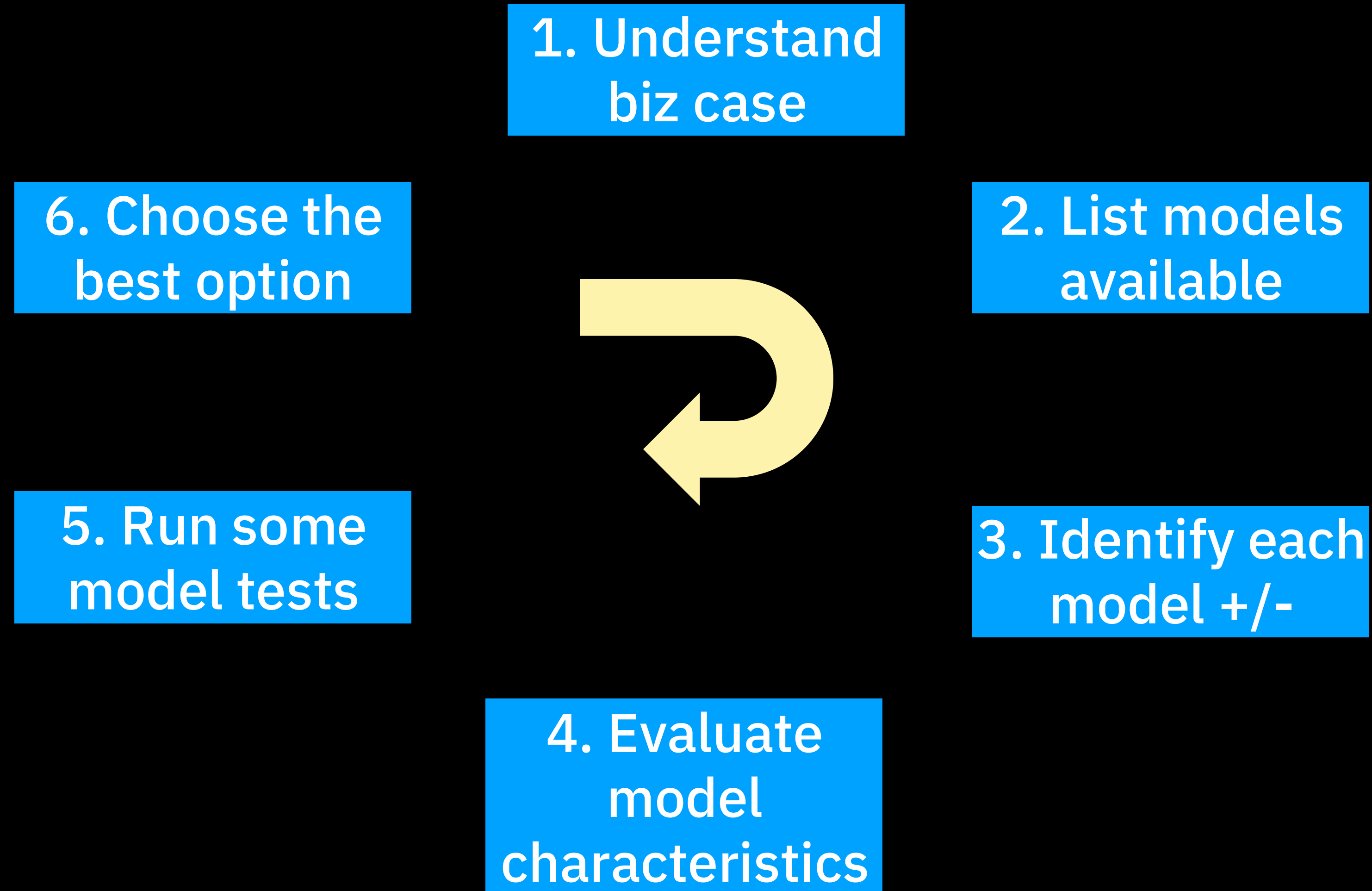
How to select the best GenAI Model

# GenerativeAI Project Lifecycle



<https://github.com/generative-ai-on-aws/generative-ai-on-aws>

# How to select the best GenAI Model



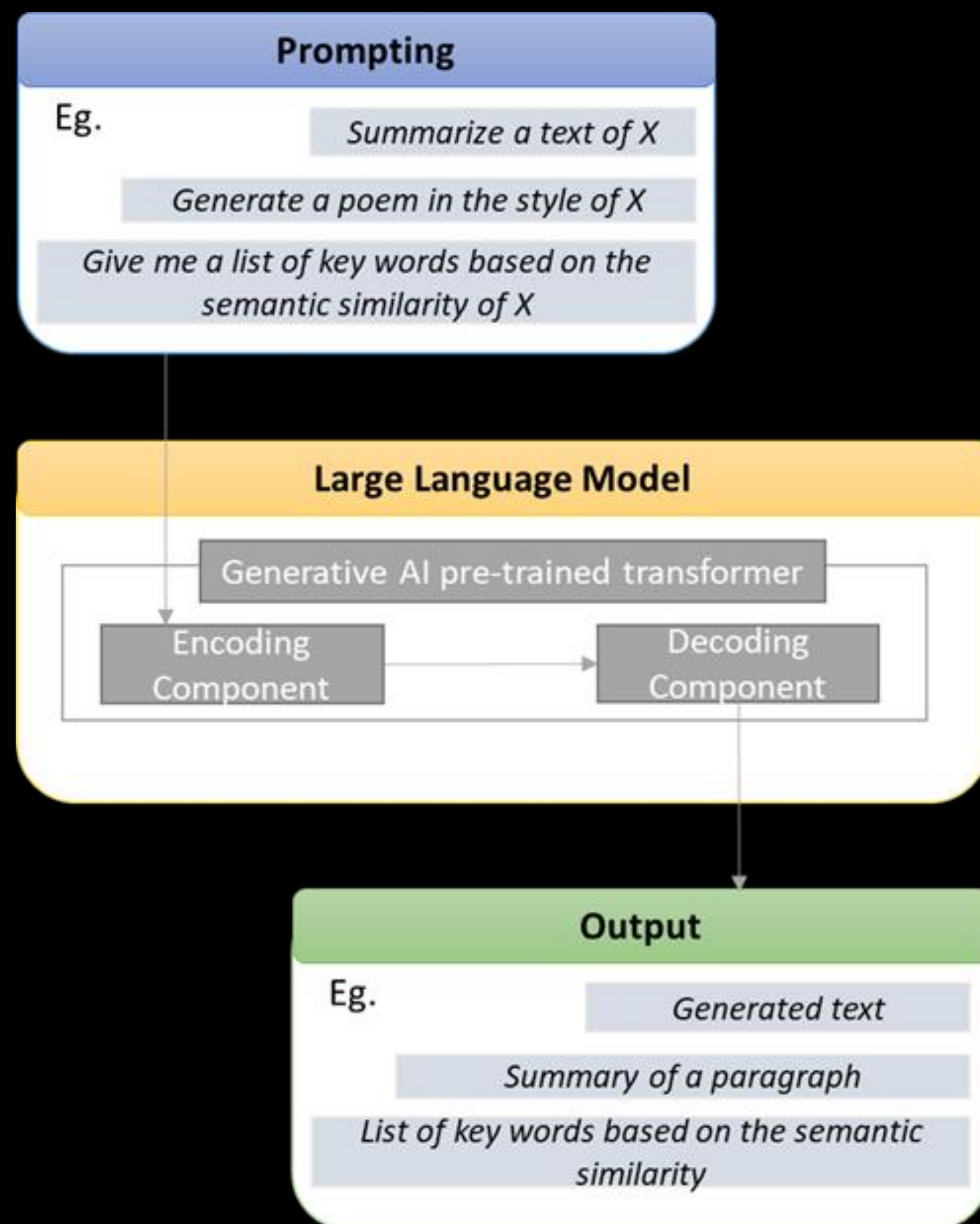
IBM watsonx.ai is a studio of integrated tools for working with generative AI capabilities that are powered by foundation models and for building machine learning models.

IBM watsonx.ai provides a secure and collaborative environment where you can access your organization's trusted data, automate AI processes, and deliver AI in your applications.

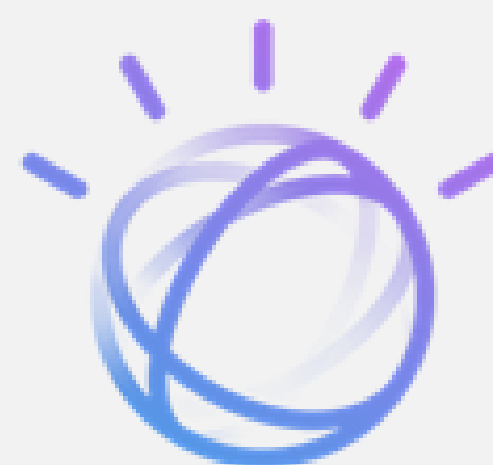




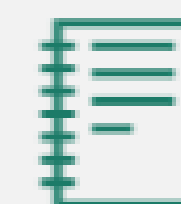
# GenAI



watsonx



## Summarization



- Meeting transcript summary
- Earnings call summary

## Classification



- Scenario classification
- Sentiment classification

## Generation



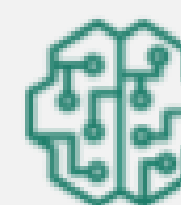
- Marketing email generation
- Thank you note generation

## Extraction



- Named entity extraction
- Fact extraction

## Question and Answering



- Questions about an article
- Finance Q&A

## Code



- Code generation
- Code translation



# Class exercise

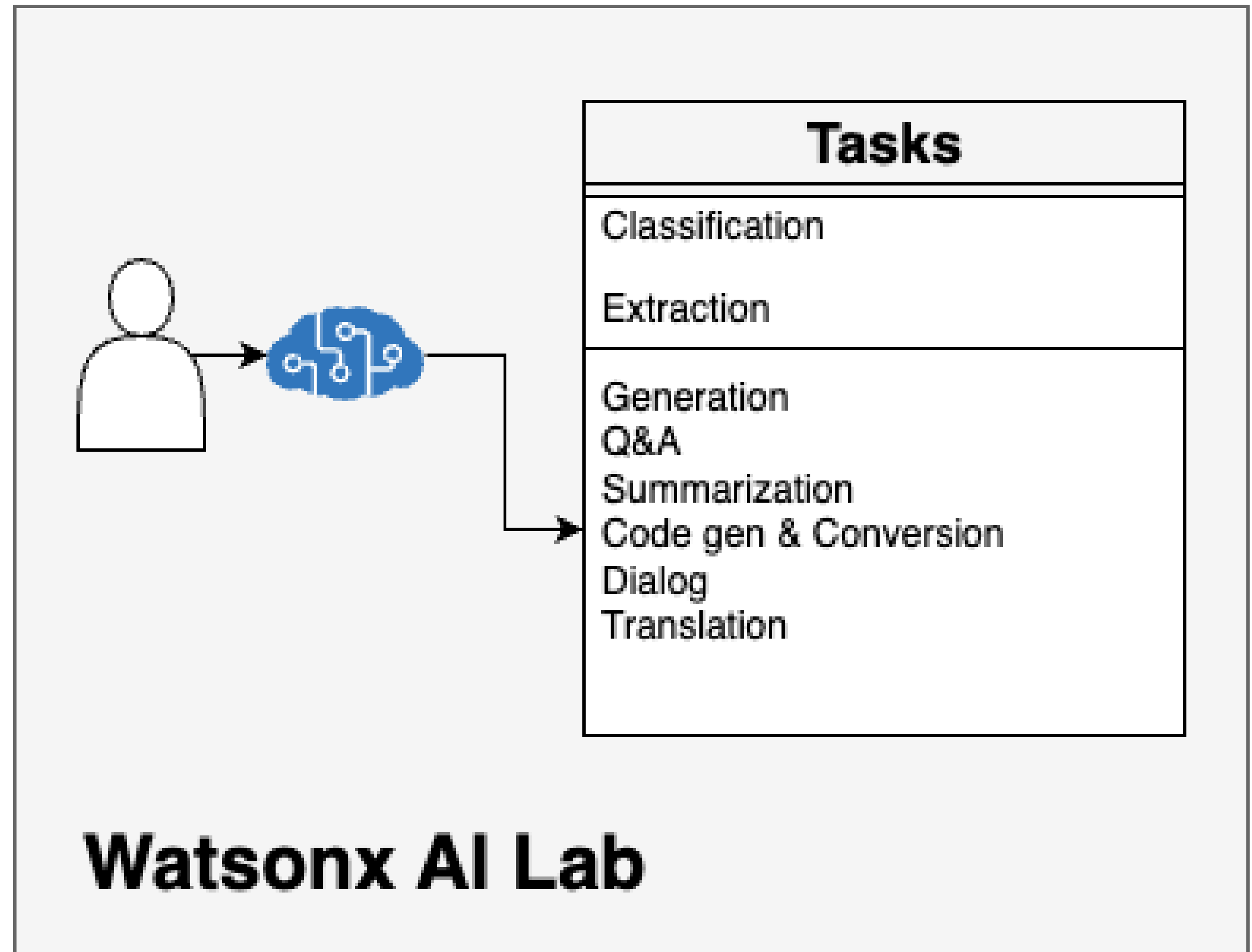
IBM watsonx studio

<https://dataplatform.cloud.ibm.com/>

# Class exercise

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[dataplatform.ibm.com](https://dataplatform.ibm.com)



# Class exercise

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Projects / 5360-wx / Prompt Lab

Unsaved

New prompt +

Model: llama-2-70b-chat

AI guardrails on

Sample prompts

Meeting transcript summary

Earnings call summary

Classification

Scenario classification

Sentiment classification

Generation

Marketing email generation

Thank you note generation

Extraction

Named entity extraction

Fact extraction

Question answering

Questions about an article

Finance Q&A

Code

Code generation

Code translation

Structured

Freeform

Hint: This model works better when you provide at least 1 example.

Set up

Instruction (optional)

Tell the model what to do. For example: Summarize the transcript.

Examples (optional)

Input:	Output:
Enter your example input here.	Enter your desired output.

Add example +

Try

Test your prompt

Input:

Enter your test input.

New test +

<div>flan-ul2-20b</div> <div>flan-ul2 is an encoder decoder model based on the T5 architecture and instruction-tuned using the Fine-tuned Language Net.</div> <div>Provider: Google</div> <div>Source: Hugging Face</div>	<div>starcoder-15.5b</div> <div>The StarCoder models are 15.5B parameter models that can generate code from natural language descriptions.</div> <div>Provider: BigCode</div> <div>Source: Hugging Face</div>	<div>mt0-xxl-13b</div> <div>An instruction-tuned iteration on mT5.</div> <div>Provider: BigScience</div> <div>Source: Hugging Face</div>	<div>gpt-neox-20b</div> <div>A 20 billion parameter autoregressive language model trained on the Pile.</div> <div>Provider: EleutherAI</div> <div>Source: Hugging Face</div>	<div>flan-t5-xl-3b</div> <div>A pretrained T5 - an encoder-decoder model pre-trained on a mixture of supervised / unsupervised tasks converted into a text-to-text format.</div> <div>Provider: Google</div> <div>Source: Hugging Face</div>
<div>flan-t5-xxl-11b</div> <div>flan-t5-xxl is an 11 billion parameter model based on the Flan-T5 family.</div> <div>Provider: Google</div> <div>Source: Hugging Face</div>	<div>granite-13b-chat-v1</div> <div>The Granite model series is a family of IBM-trained, dense decoder-only models, which are particularly well-suited for generative tasks.</div> <div>Provider: IBM</div> <div>Source: IBM</div>	<div>granite-13b-chat-v2</div> <div>The Granite model series is a family of IBM-trained, dense decoder-only models, which are particularly well-suited for generative tasks.</div> <div>Provider: IBM</div> <div>Source: IBM</div>	<div>granite-13b-instruct-v1</div> <div>The Granite model series is a family of IBM-trained, dense decoder-only models, which are particularly well-suited for generative tasks.</div> <div>Provider: IBM</div> <div>Source: IBM</div>	<div>granite-13b-instruct-v2</div> <div>The Granite model series is a family of IBM-trained, dense decoder-only models, which are particularly well-suited for generative tasks.</div> <div>Provider: IBM</div> <div>Source: IBM</div>
<div>mpt-7b-instruct2</div> <div>MPT-7B is a decoder-style transformer pretrained from scratch on 1T tokens of English text and code. This model was trained by IBM.</div> <div>Provider: Mosaic, tuned by IBM</div> <div>Source: Hugging Face</div>	<div>llama-2-13b-chat</div> <div>Llama-2-13b-chat is an auto-regressive language model that uses an optimized transformer architecture.</div> <div>Provider: Meta</div> <div>Source: Hugging Face</div>	<div>llama-2-70b-chat</div> <div>Llama-2-70b-chat is an auto-regressive language model that uses an optimized transformer architecture.</div> <div>Provider: Meta</div> <div>Source: Hugging Face</div>		

Lab 2

English & Code Translation

Query top five products based on the price and items sold

Query the count of employees in band L6 and with manager ID as 23079

Write SQL Query given the table name is {Table} and columns are {Columns} for the question : {question}.

