Deep Dive on Advanced Prompt Engineering

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Coffee on us.

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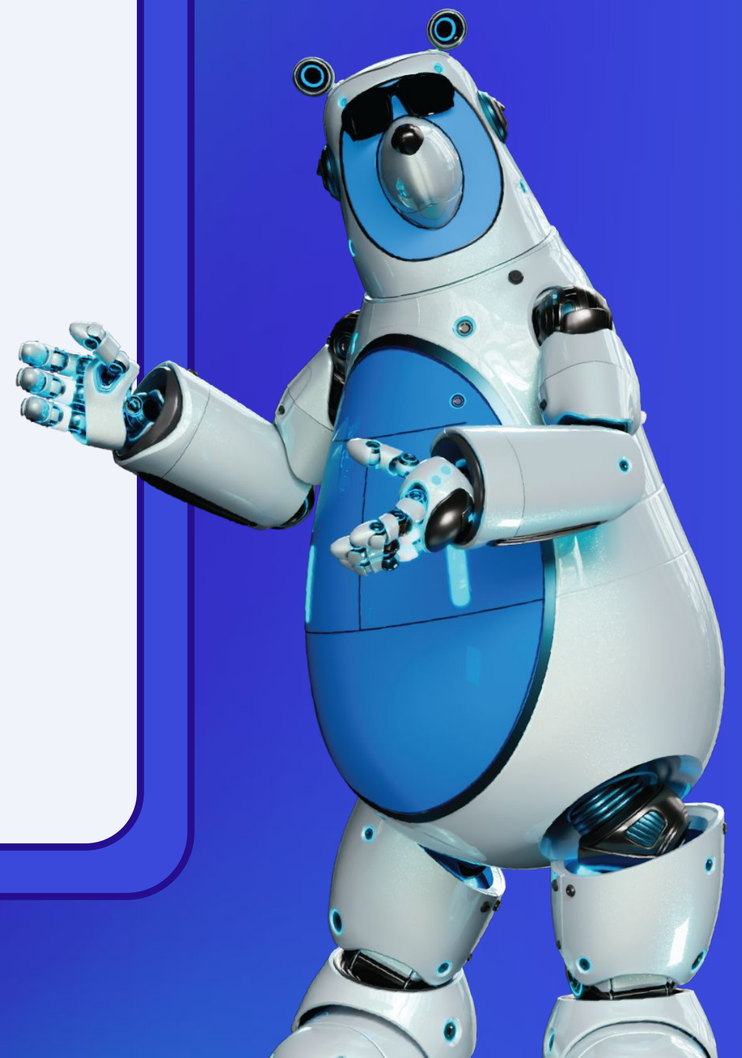
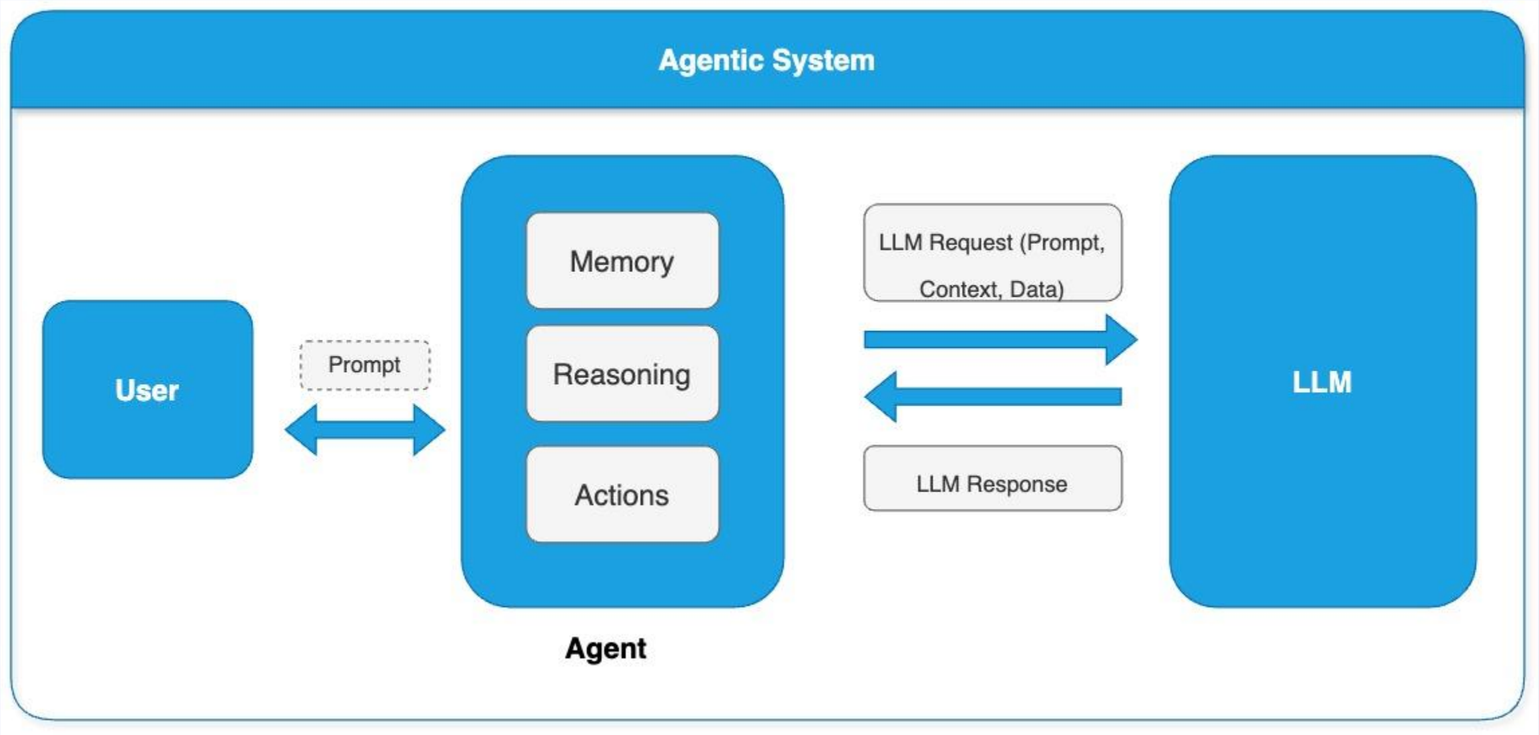
Agenda

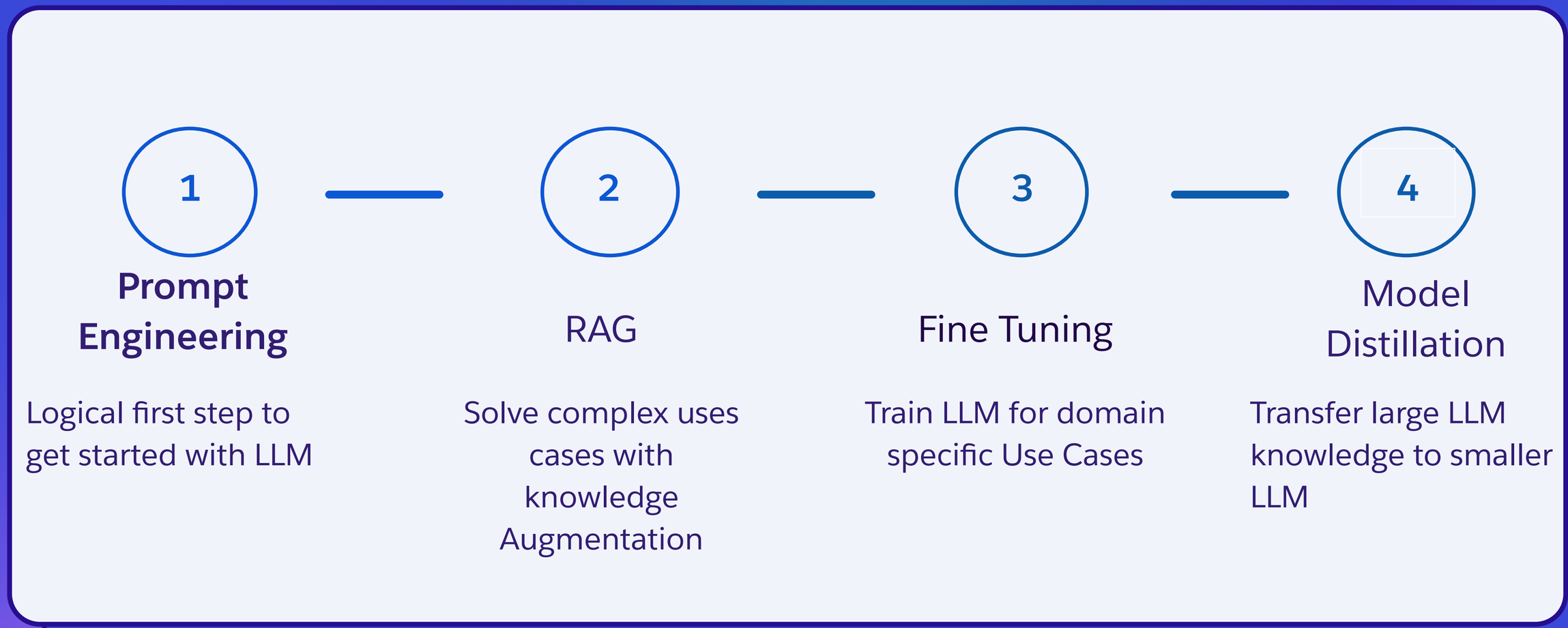
- Introduction
- Prompt Basics
- Advanced Prompting Techniques
- Demos
    - Agentforce Optimization with Prompts
    - Task Automations with Prompts
- Q&A



Introduction - LLMs & Agents



LLM Optimization Journey



Why Prompt Engineering?

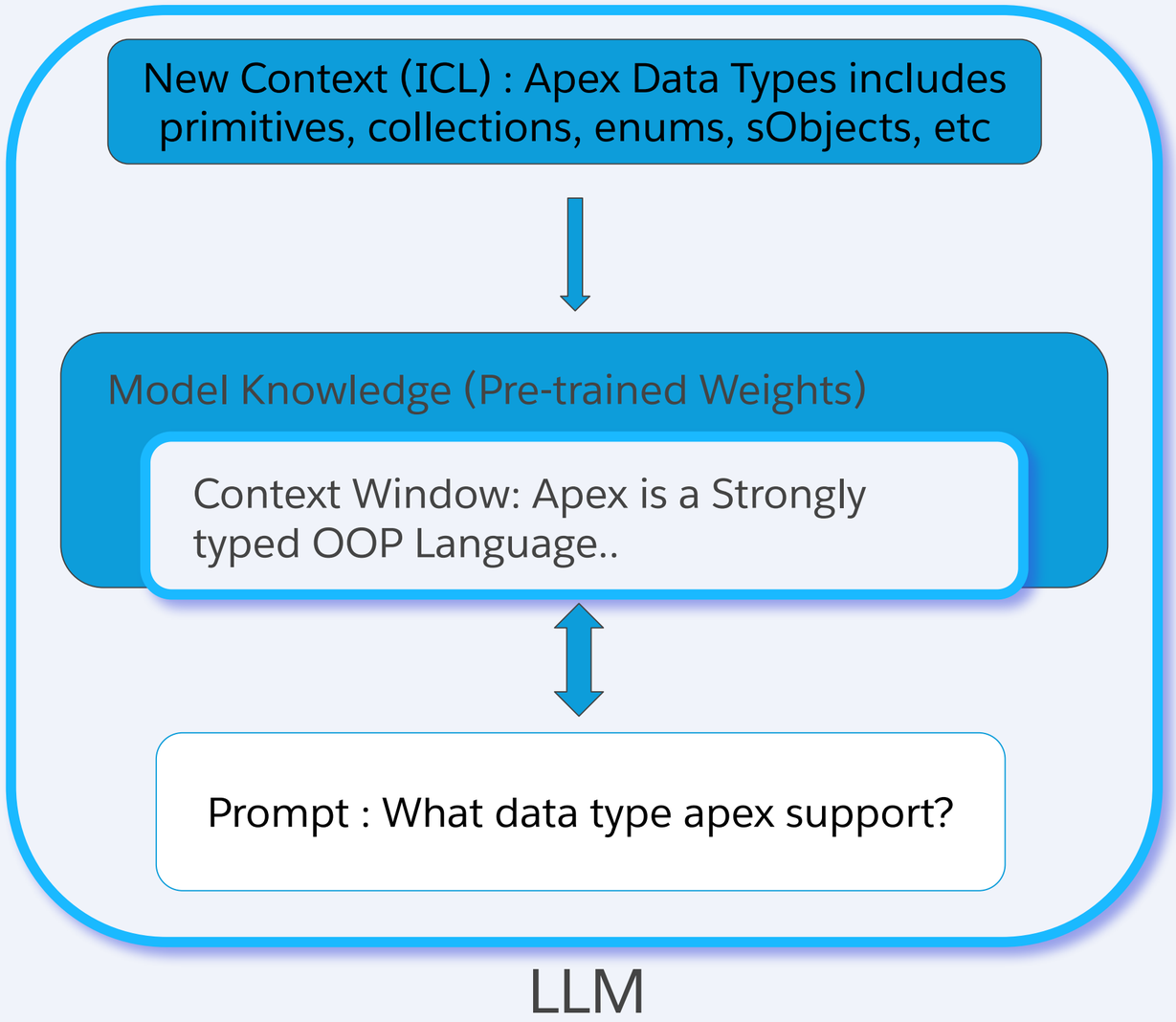
- LLM with vast general knowledge, lacks context for enterprise adoption
- Challenges with Agentic systems to follow instruction & provide expected responses
- Prompt engineering is the easiest way to **guide and control** LLM text generation
- Solve NLP Tasks, Content Generation, Machine Translation , Agentic System, etc

LLM Context Window

Amount of information of Model can lookup during prompt execution

In Context Learning (ICL)

Ability of Model to gain short term insight from instructions, examples, context provided



Prompt Elements

Influencing LLM output generation

System Instruction	→	Ex: You are a invoice data analysis agent
Context, History, Example	→	Share Examples, Context, etc
Validations	→	Ex: Order Id should be 15 or 18 character only
Input Data	→	Transaction data or RAG retrieval
Response Format	→	Examples of expected response format
Questions/Ask	→	Detailed Question or Problems

Prompt formatting is required in addition*

Few Shot Prompting (FSP)

Learn from examples

Teaching LLMs new concepts/patterns in the moment (ICL) through examples to improve model prediction accuracy and response.

Few Shot Prompting Demo

Chain of Thought (COT)

Let’s think step-by-step

- Complex Arithmetic or logical problem solving requires step by step reasoning to get accurate result.
- Few examples with step-by-step reasoning will helps the model learn (ICL) and solve **similar** problems.

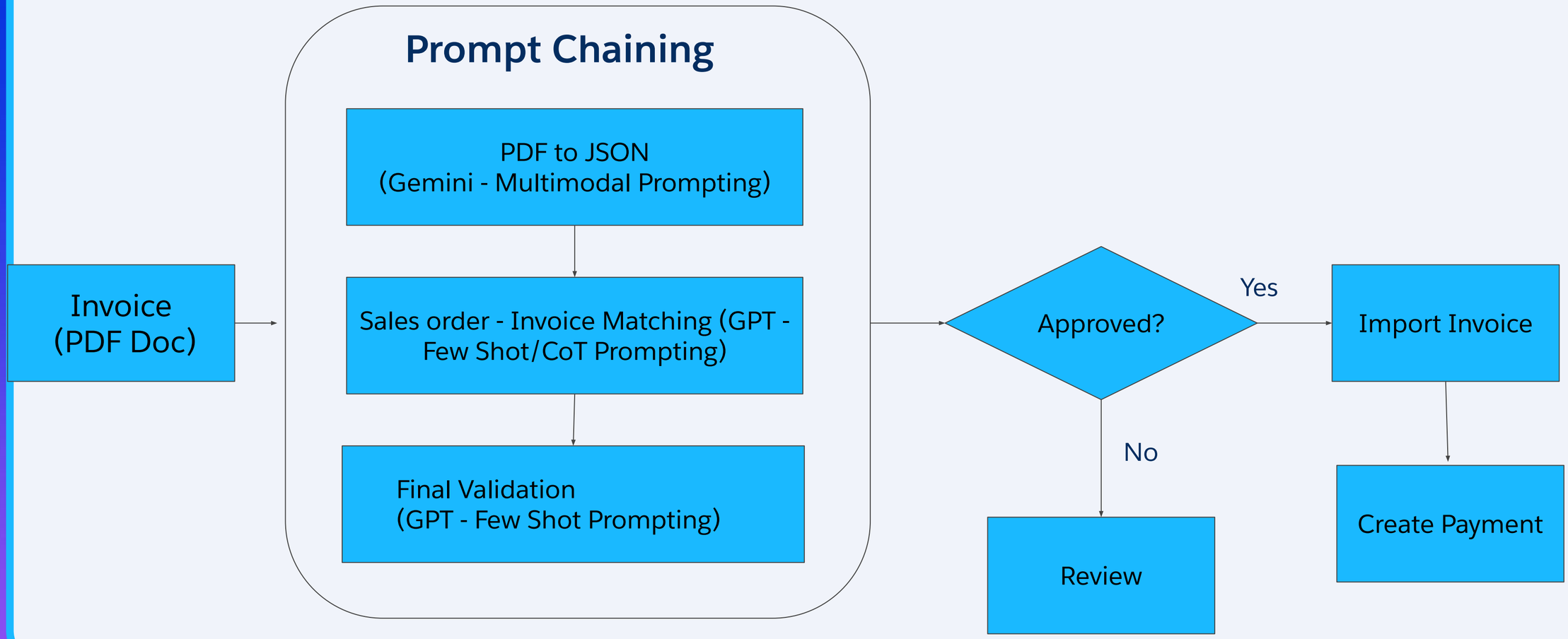
COT Demo

Prompt Chaining

Orchestration using prompts & speciality models

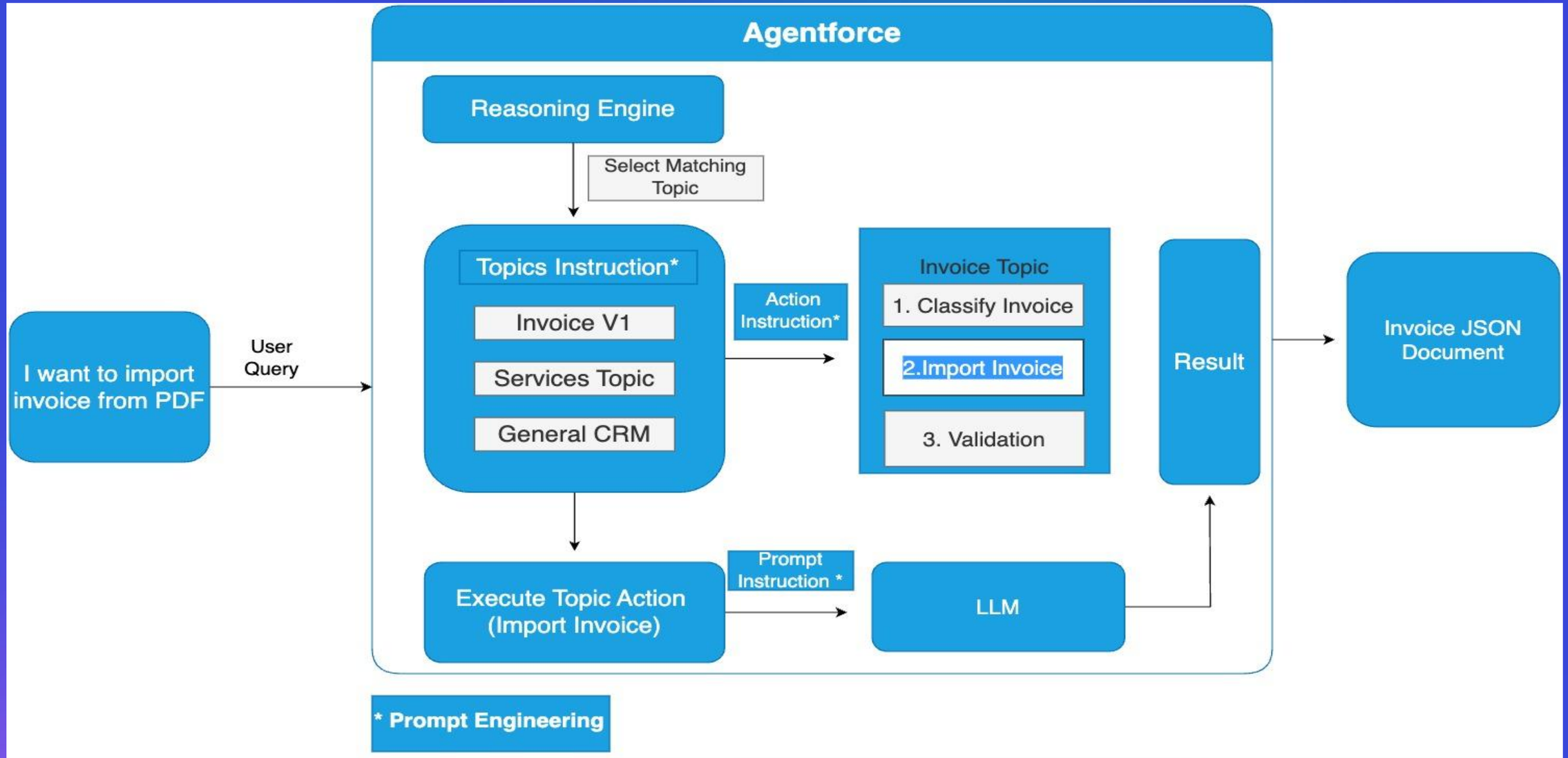
Decomposing complex tasks into multiple prompts (sub-tasks), solving with speciality models and chain to them build complex workflows

Let's Build an Invoice Agent



Prompt Chaining Demo

Prompting for Agentforce



Agentforce Optimization Demo

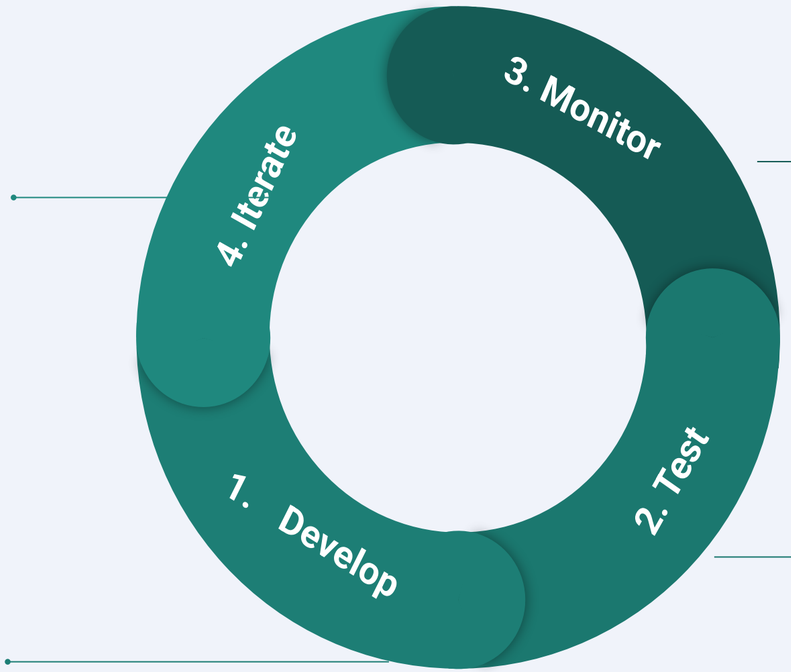
Prompt Lifecycle Management

Iteration

Prompt template for versioning, iterate with feedback, improve performance and accuracy

Planning & Development

Prompt Builder, Prompt Template, Model API, Platform Tools



Security, Analytics and Monitoring

Data Cloud AI Reporting, Einstein Trust Layer (Event Monitoring, Masking, Data Detect, etc),

Testing & Evaluation

Manual Test, AI Test Center,

Open Source Eval (Promptfoo, DeepEval)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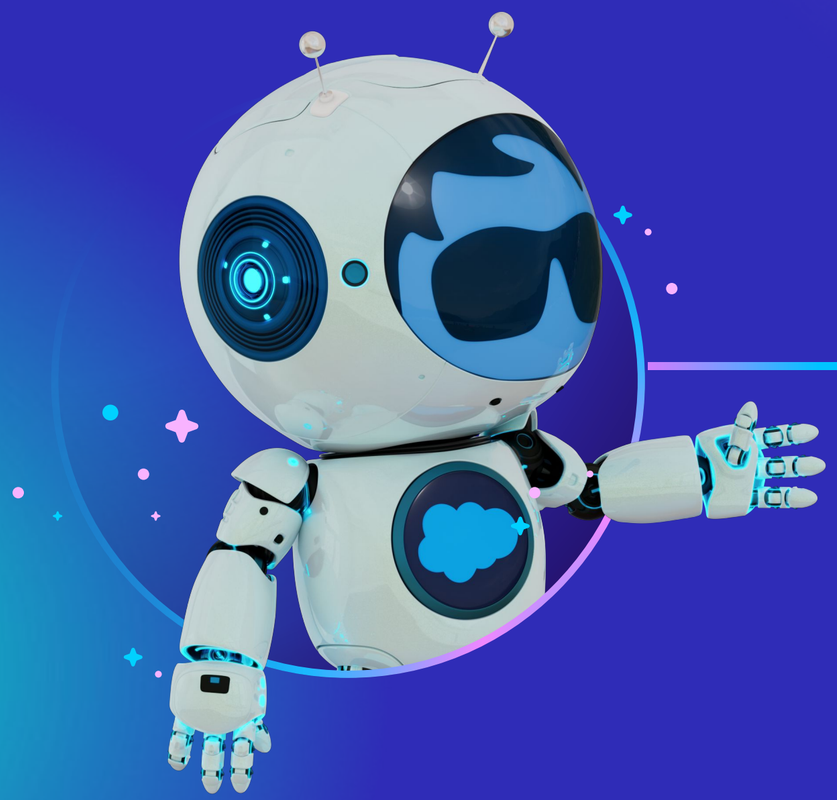

Q&A

Resources

*Github repo link will be updated EOD