





# 8 Architectural Layers of Agentic AI



Ashish Sahu  
Tech Career Coach

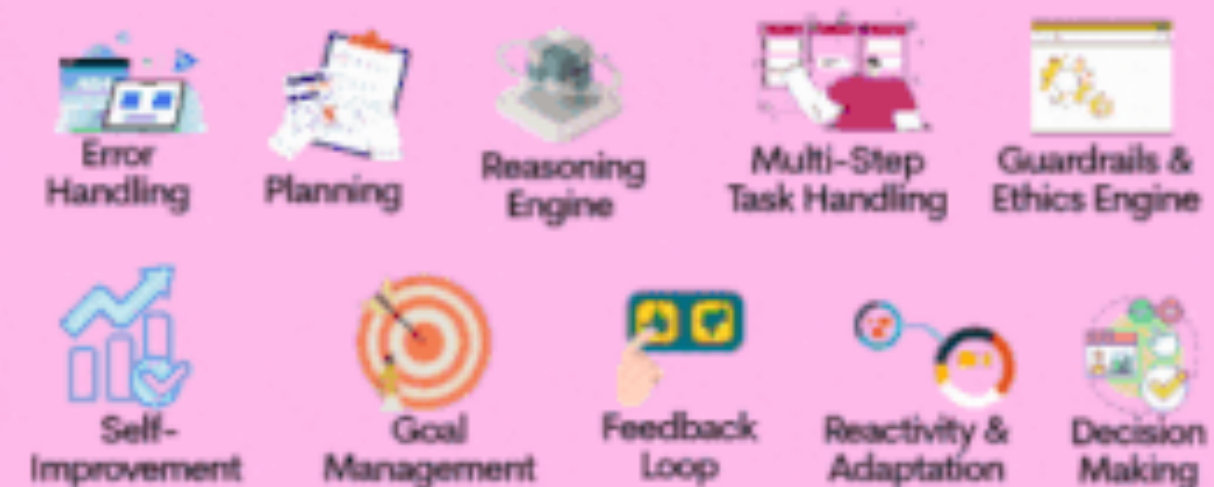
## Application Layer



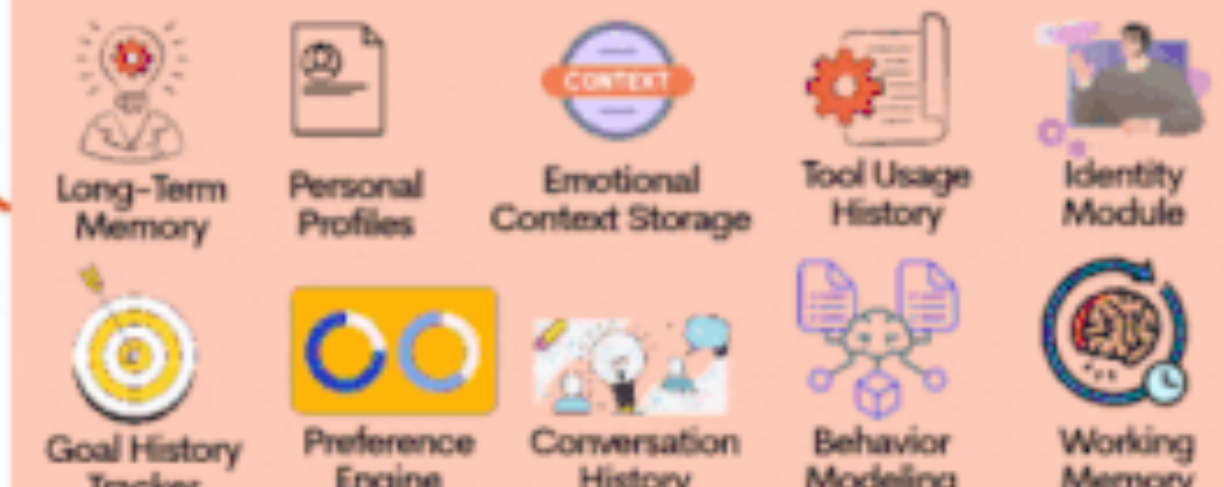
## Ops & Governance Layer



## Cognition & Reasoning Layer



## Memory & Personalization Layer



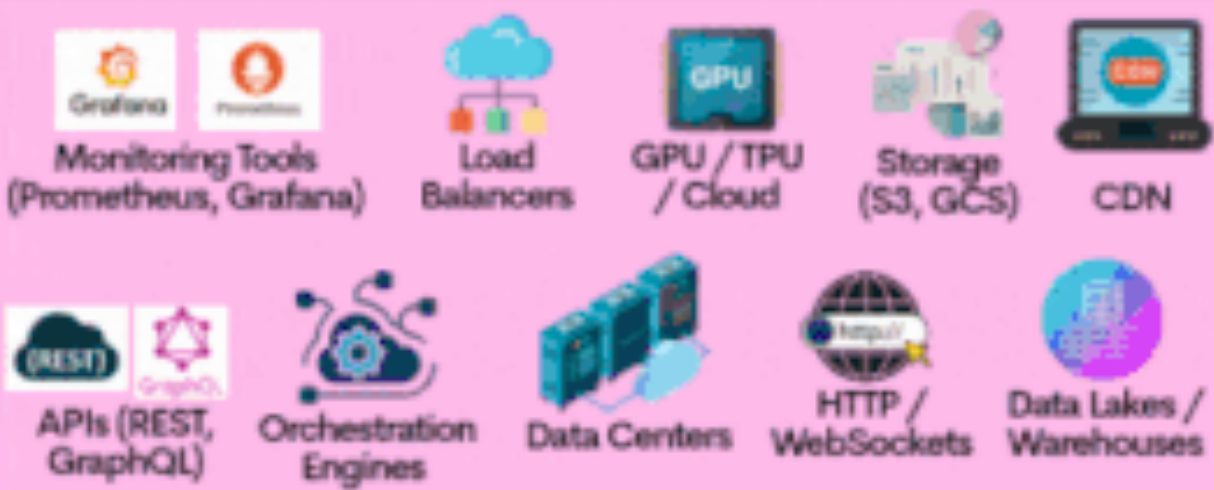
## Protocol Layer



## Tooling & Enrichment Layer



## Infrastructure Layer



## Agent Internet Layer



LAYER 8

LAYER 7

LAYER 6

LAYER 5

LAYER 4

LAYER 3

LAYER 2

LAYER 1

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**Agentic**  
**System**

Articles





# **Infrastructure Layer**

**Provides the fundamental computing resources and services like APIs, cloud compute, storage, networking, and orchestration to support all higher layers.**



# **Agent Internet Layer**

Enables networking, communication, and coordination among agents through autonomous systems, agent memory, mesh networks, and identity protocols.

## **Protocol layer**

**Defines protocols for agent-to-agent communication, capability sharing, negotiation, and integration, ensuring smooth interoperability across agents and services.**

## **Tooling Layer**

Offers tools and services for information retrieval, external tool usage, code execution, vector databases, and plugins to enhance agent capabilities.

# **Cognition & Reasoning Layer**

Equips agents with advanced cognitive functions like reasoning, decision making, planning, goal management, and multi-step task execution.

## **Memory & Personalisation Layer**

Manages memory systems, personal profiles, behavior modeling, and preferences to enable personalized and context-aware agent behavior.



## **Application Layer**

Hosts various end-user applications such as personal assistants, research agents, learning bots, and e-commerce or entertainment

## **Ops & Governance Layer**

Provides operational tools and governance frameworks including observability, deployment pipelines, trust frameworks, cost optimization, and policy enforcement.



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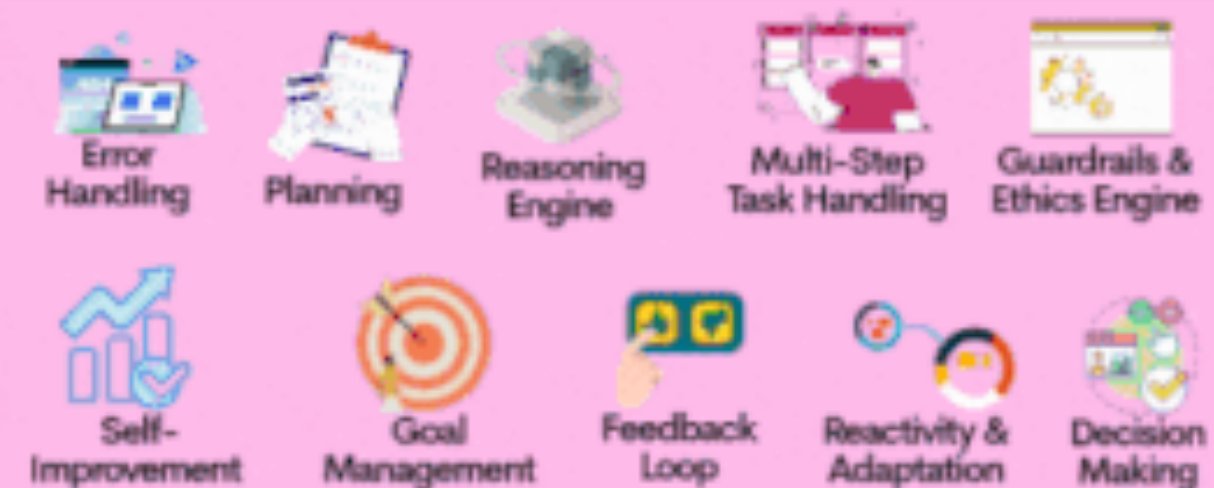
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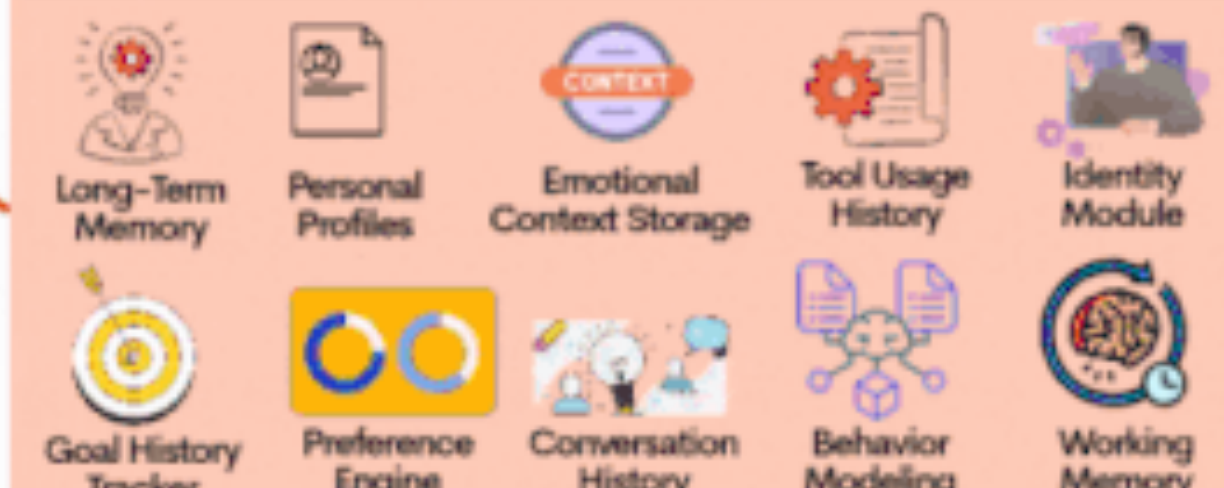
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## Cognition & Reasoning Layer



## Memory & Personalization Layer



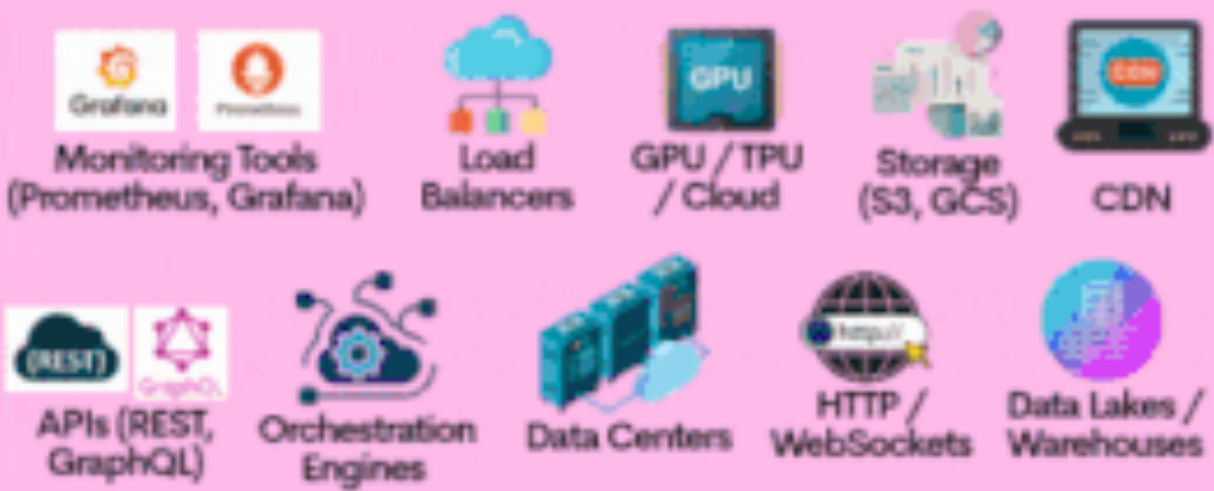
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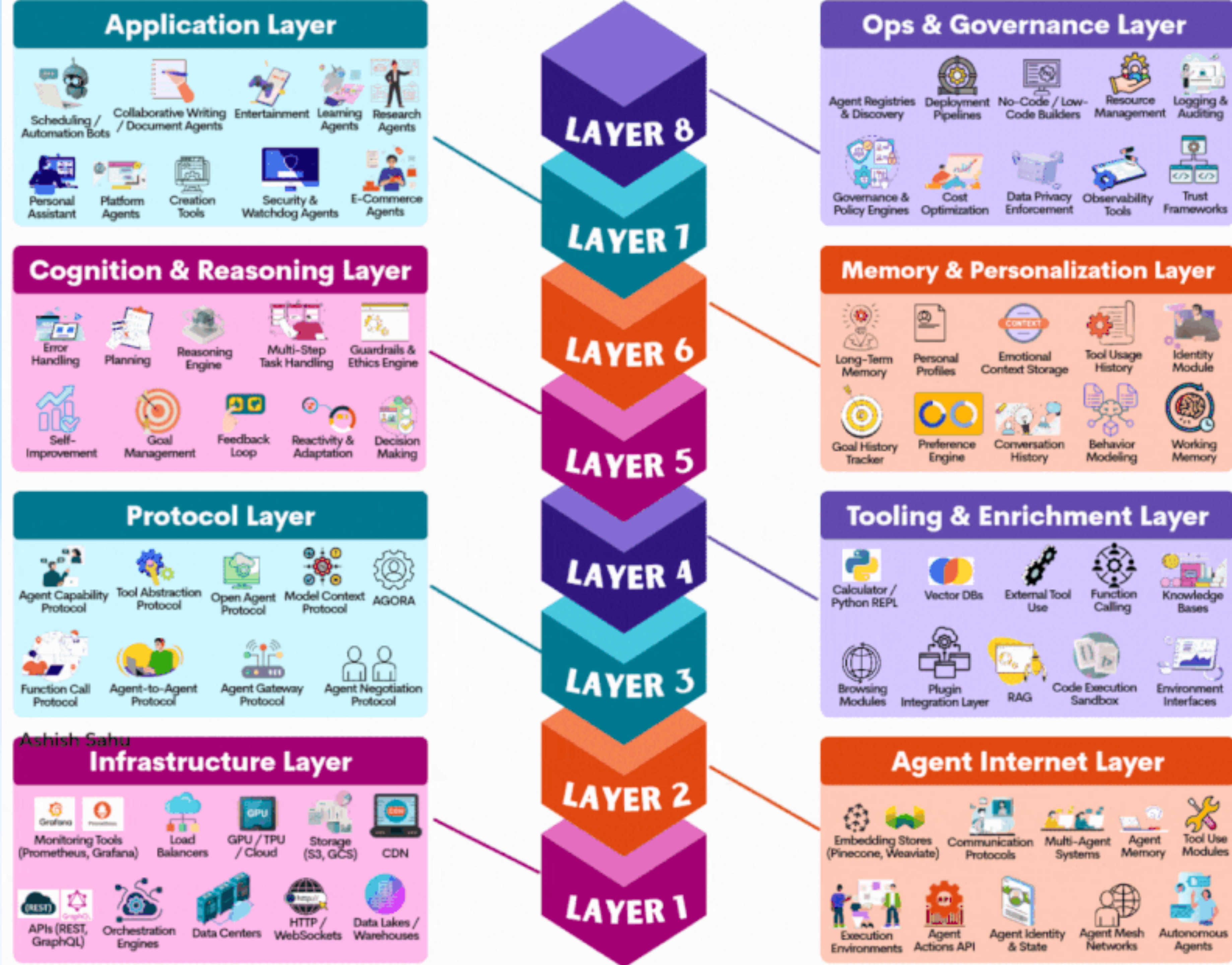


# Agentic System

## Architecture

### Ops & Governance Layer

Provides operational tools and governance frameworks including observability, deployment pipelines, trust frameworks, cost optimization, and policy enforcement.





# Demo Jupyter Notebook

OpenAI SDK, MongoDB

<https://colab.research.google.com/github/cedricwalter/Al-Agents/blob/main/notebooks/agents/intro-generative-AI.ipynb>