Multi-Agents and the Future of Work

3 JUILLET 2025 | SKEMA BUSINESS SCHOOL

AZUR TECH Summer

Telecom valley | Animateur Azuréen Numérique

Link

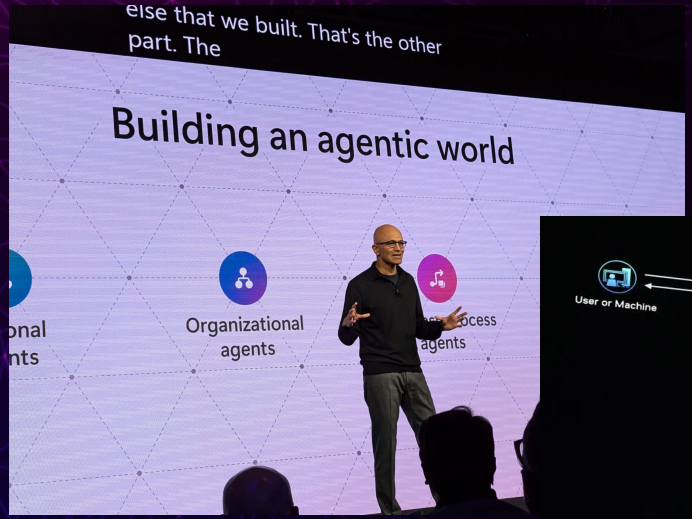
About us

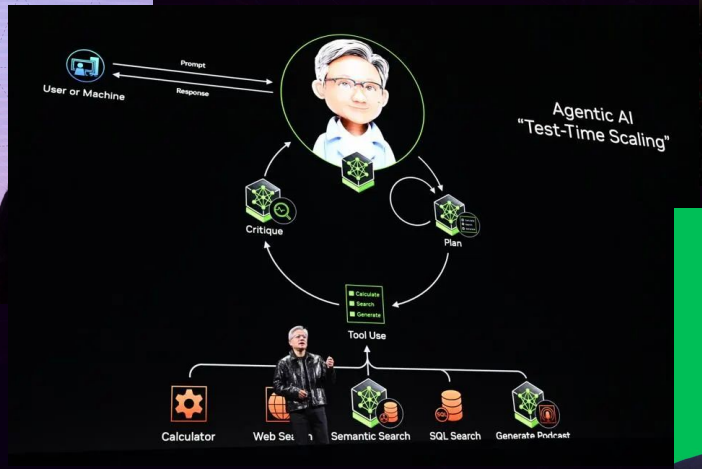
- My name is Pablo Fernández, CEO & Founder of ArtinLeap
- ArtinLeap (founded March 2024) is a French AI startup headquartered in Sophia Antipolis – Europe's largest tech park.
- We build **secure**, **sustainable** AI Agent solutions that help businesses **grow** while prioritizing data **sovereignty**, team empowerment, and environmental stewardship.
- Our star product is **ecitonX**: an Agentic solution

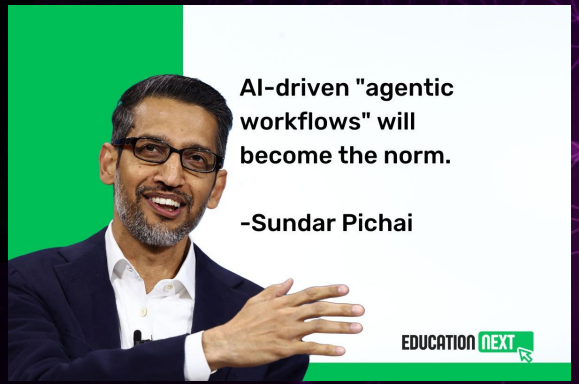
Pablo Fernández
CEO & Founder

Connect with me on LinkedIn

Agentic … everywhere

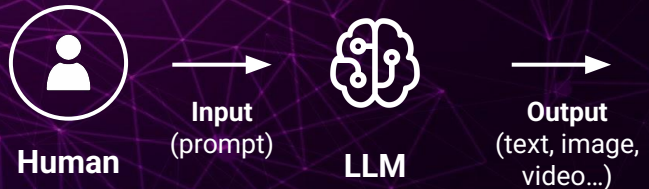






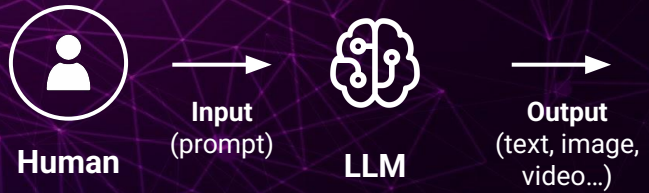
AI Concepts

LLM, Workflows, Agents



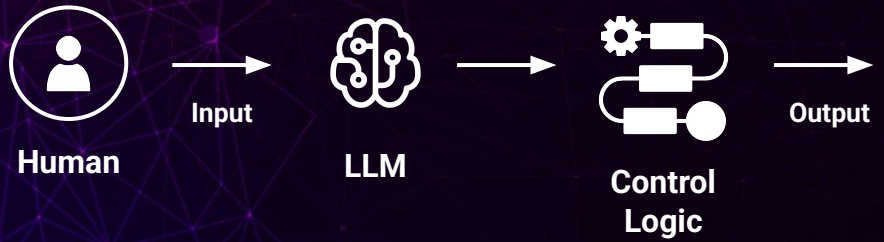
Large Language Models

Passive
Limited knowledge of proprietary information



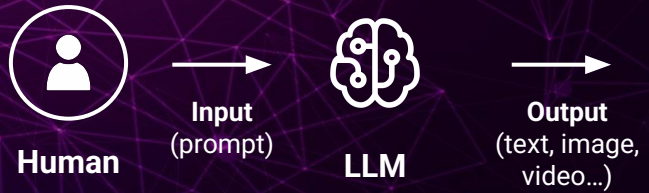
Large Language Models

Passive
Limited knowledge of proprietary information



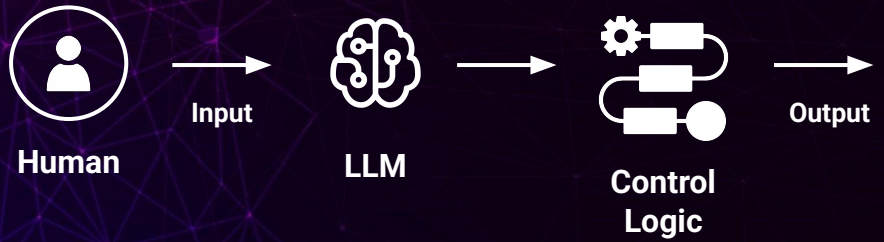
AI Workflows

Guided
A human defines the workflow (automation)



Large Language Models

Passive
Limited knowledge of proprietary information



AI Workflows

Guided
A human defines the workflow (automation)

AI Agents

Proactive
Agent gets goal, LLM reasons, plans, uses tools, and learns

Agentic

Let’s go deeper

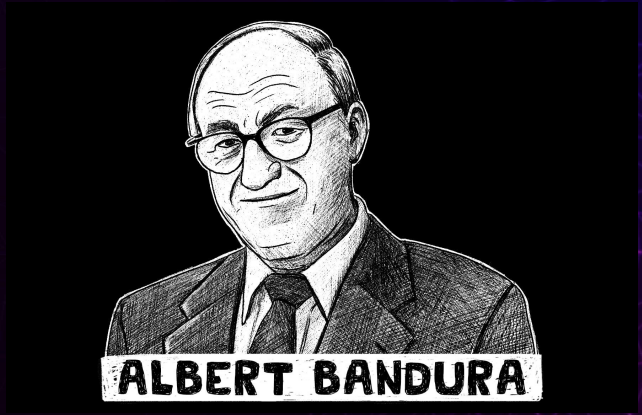
Agentic (etymology)

Its roots trace back to 1986, when psychologist Albert Bandura introduced "**human agency**" in his social cognitive theory

Bandura defined agency as "the human capability to exercise control over the nature and quality of one's life".

Emphasized 3 core components that became foundational to AI agent design:

- intentionality,
- forethought, and
- self-reactiveness.



Agentic

1. Understands the goals
2. Figures out the steps
3. Uses the right tools
4. Adapts as it goes

Agentic

1. Understands the goals
2. Figures out the steps
3. Uses the right tools
4. Adapts as it goes

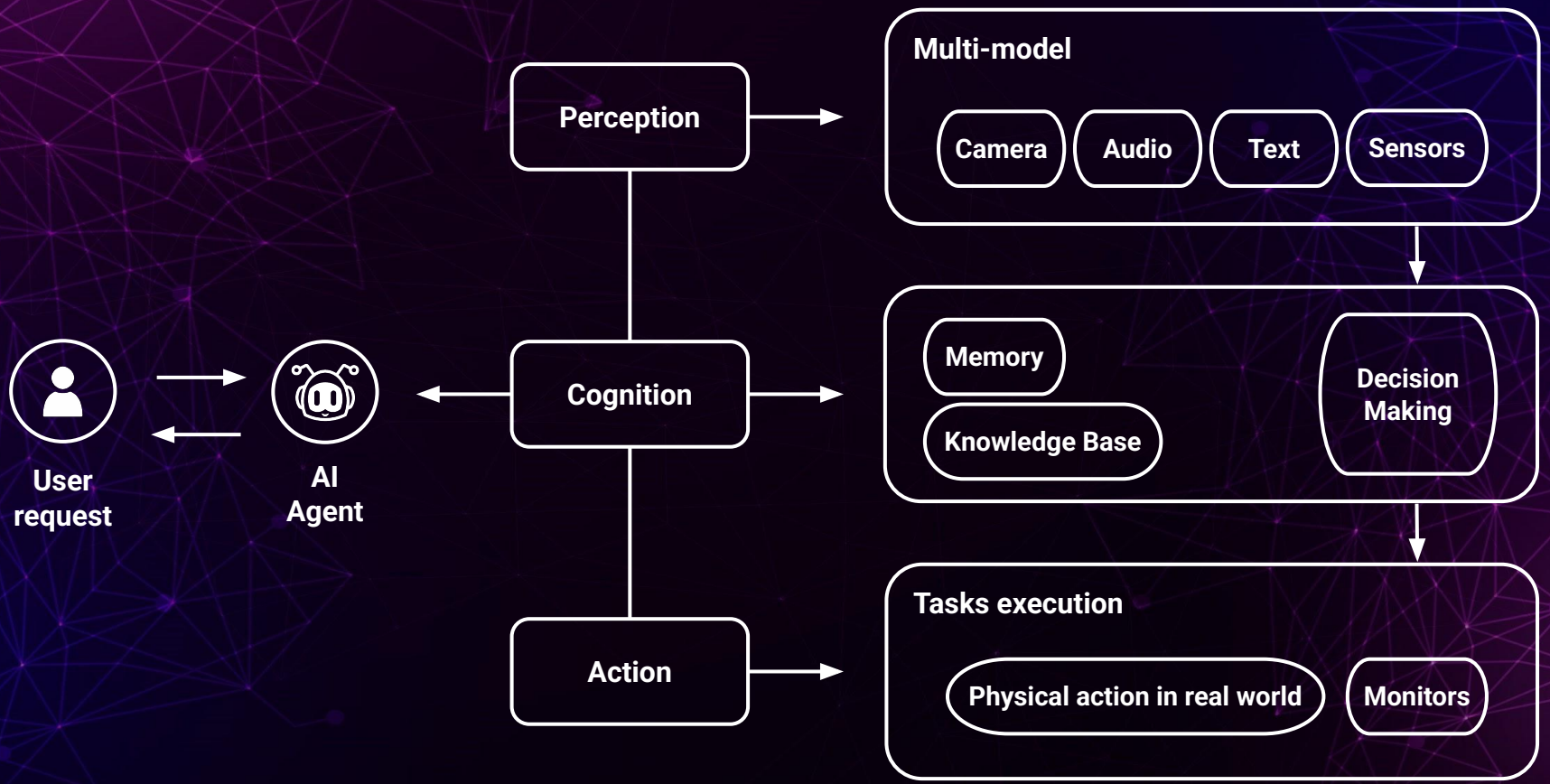
Perceive

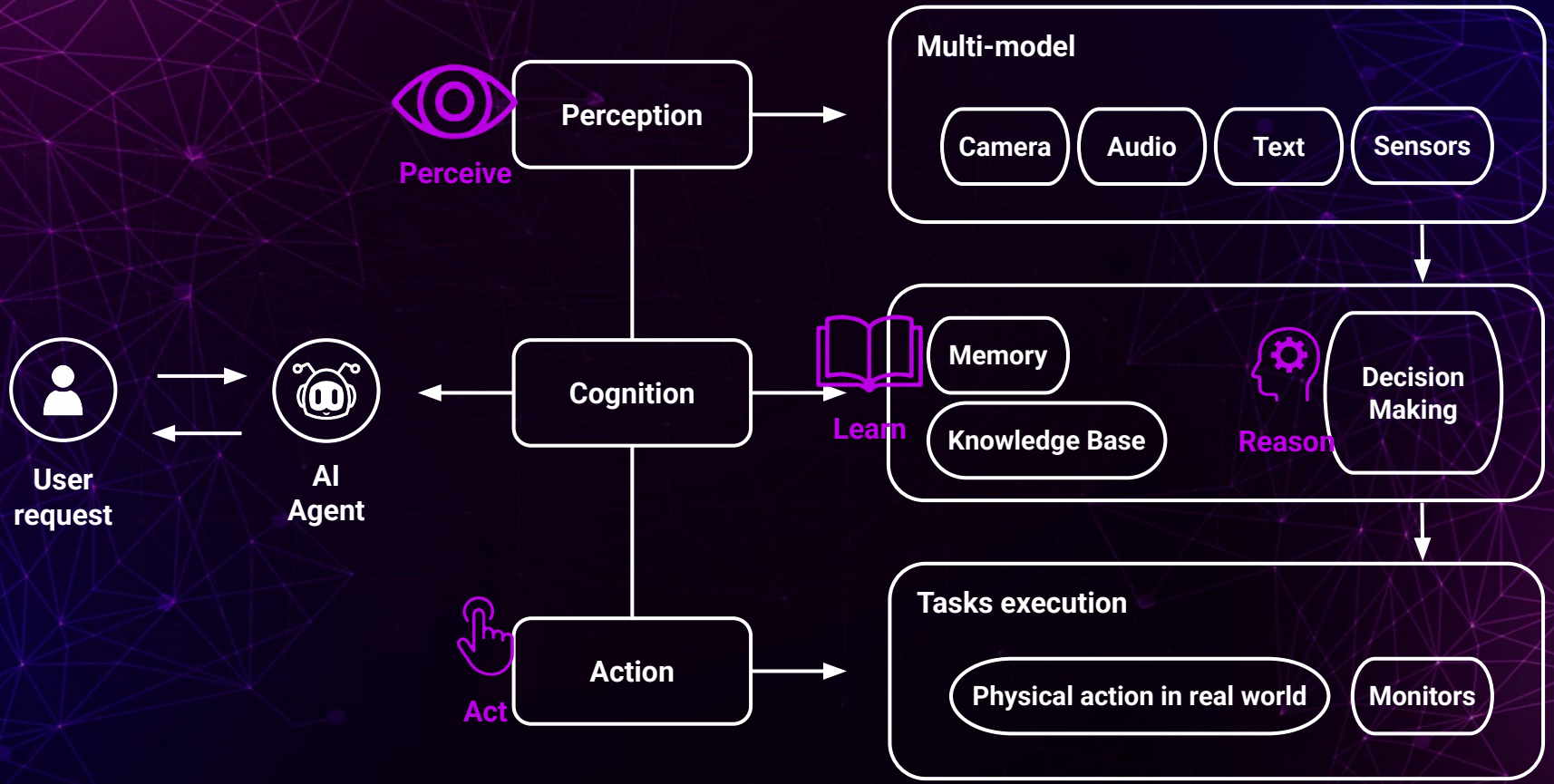
Reason

Act

Learn

Agentic





4 core parts

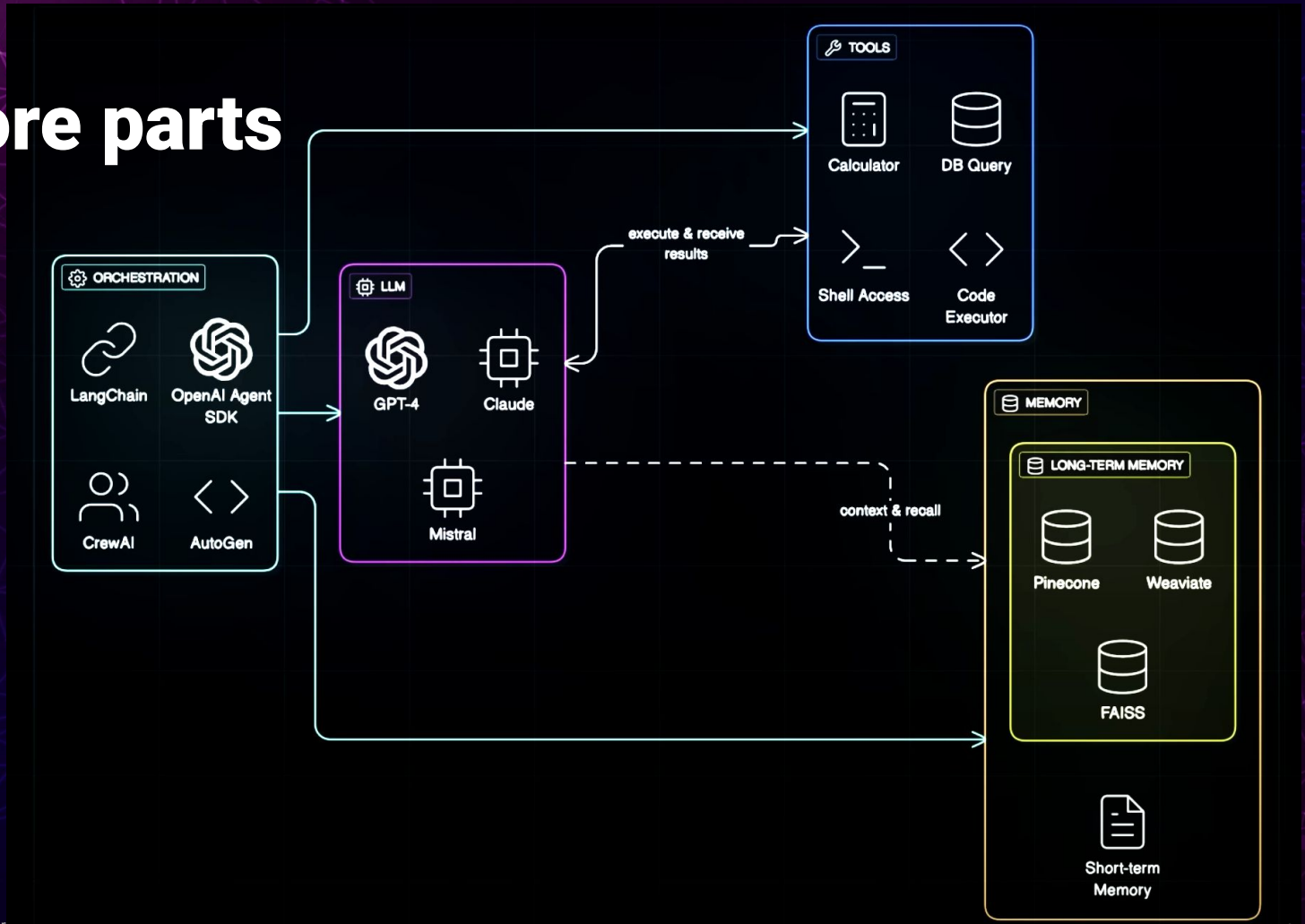
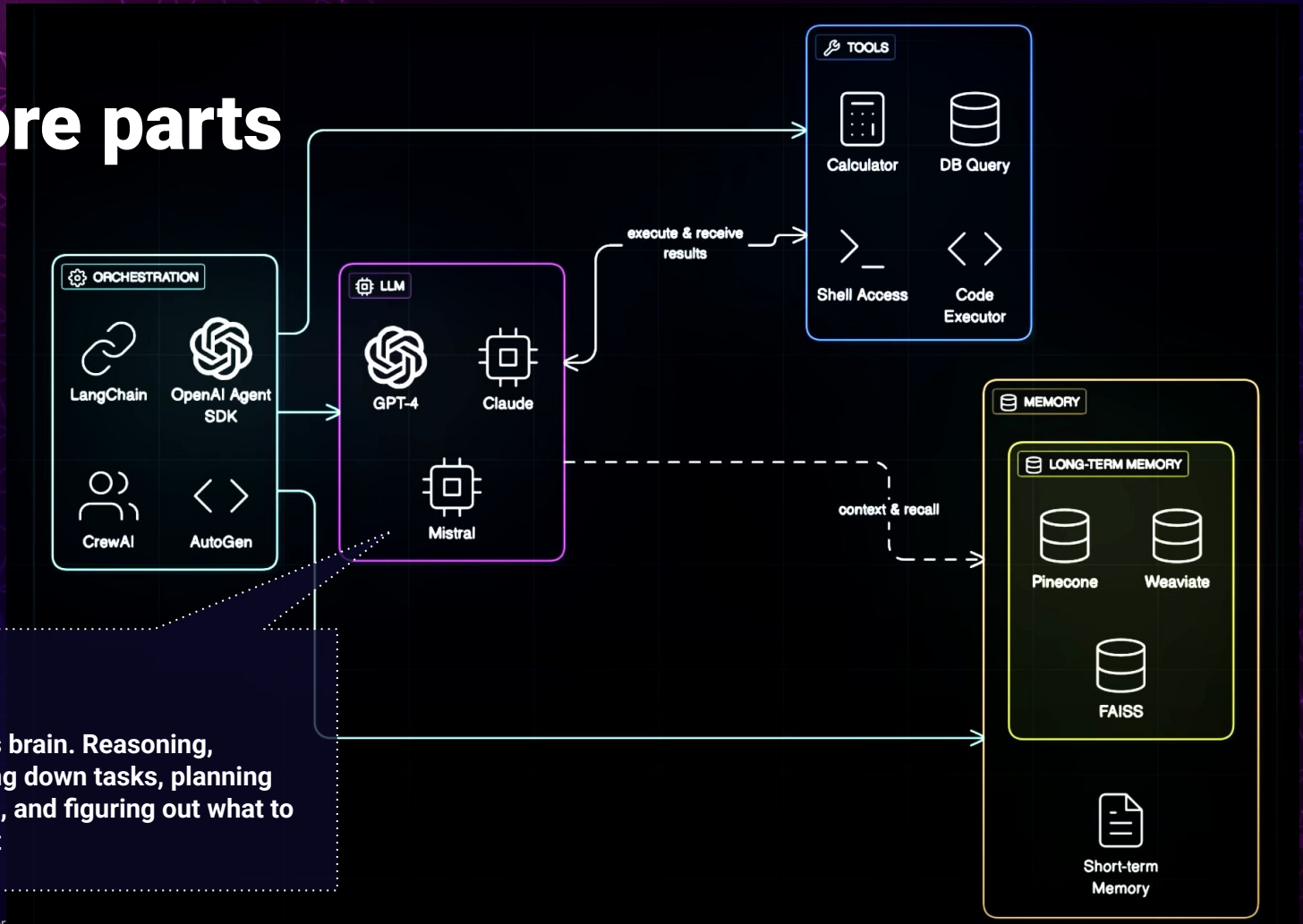


Image source: ByteMonk

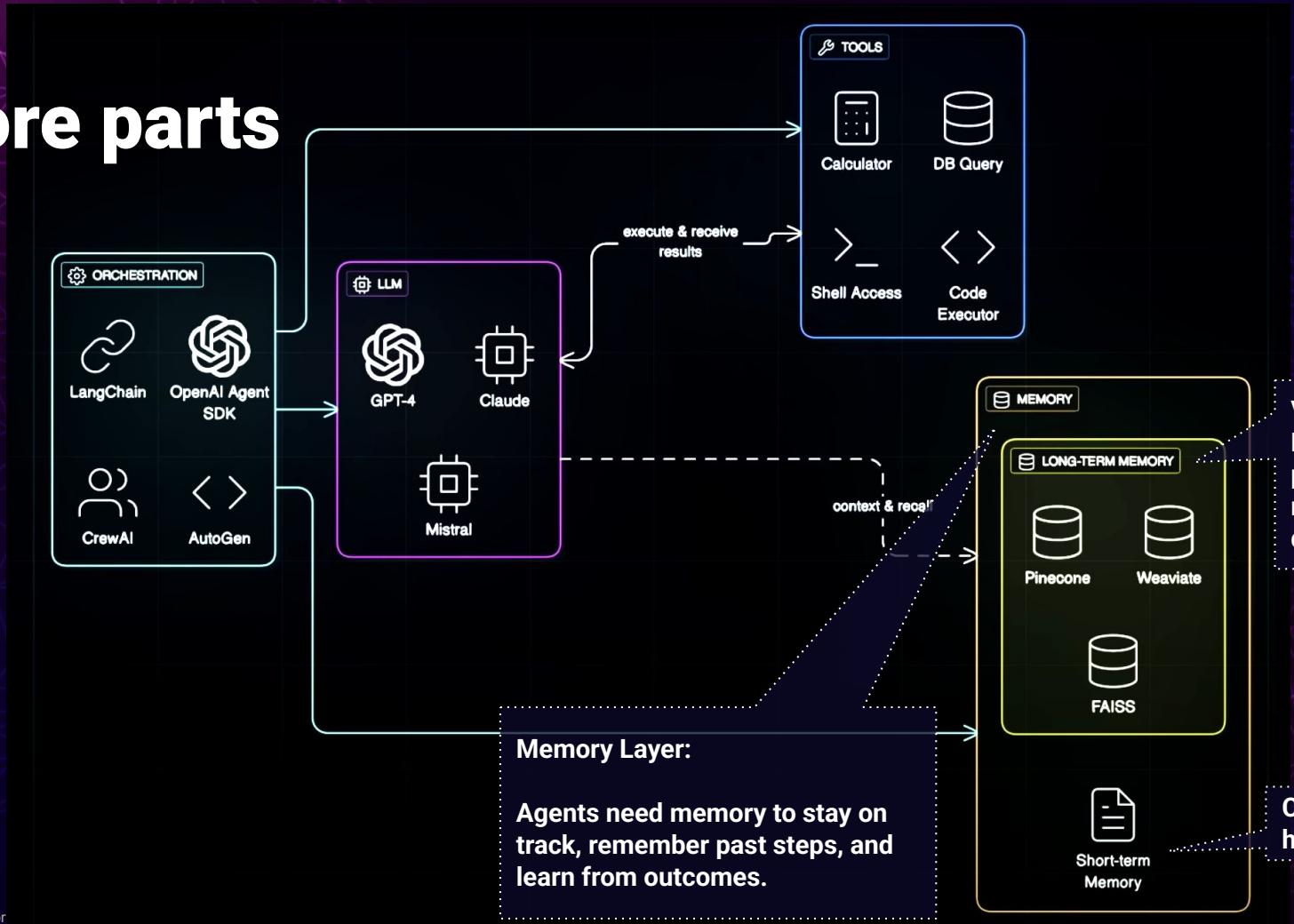
4 core parts



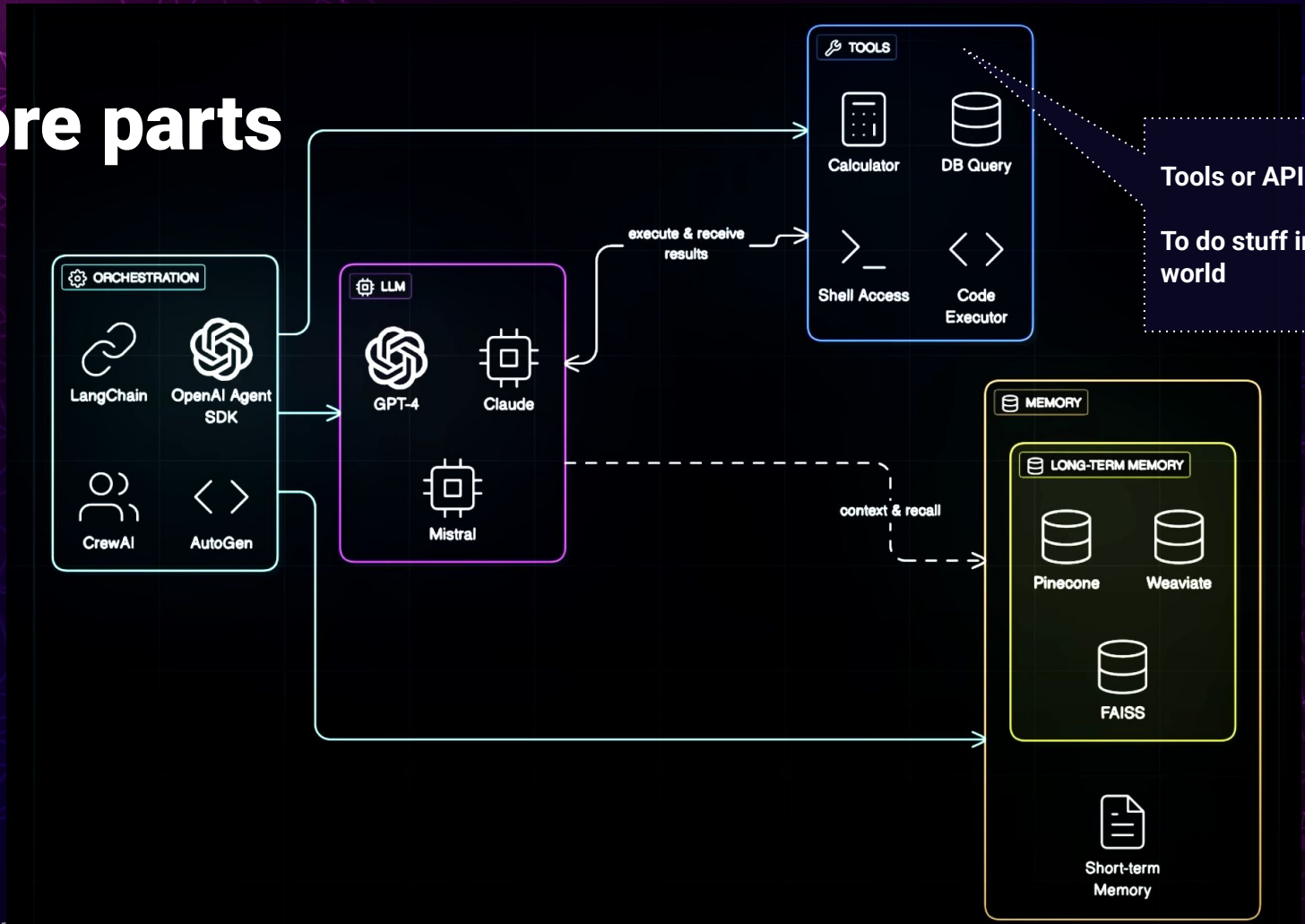
LLM:

Agent's brain. Reasoning, breaking down tasks, planning actions, and figuring out what to do next

4 core parts


TOOLS
Calculator
DB Query
Shell Access
Code Executor
execute & receive results
ORCHESTRATION
LangChain
OpenAI Agent SDK
CrewAI
AutoGen
LLM
GPT-4
Claude
Mistral
context & recall
MEMORY
LONG-TERM MEMORY
Pinecone
Weaviate
FAISS
Short-term Memory
Vector DBs Recall previous results or decisions.
Conversation history.
Memory Layer:
Agents need memory to stay on track, remember past steps, and learn from outcomes.

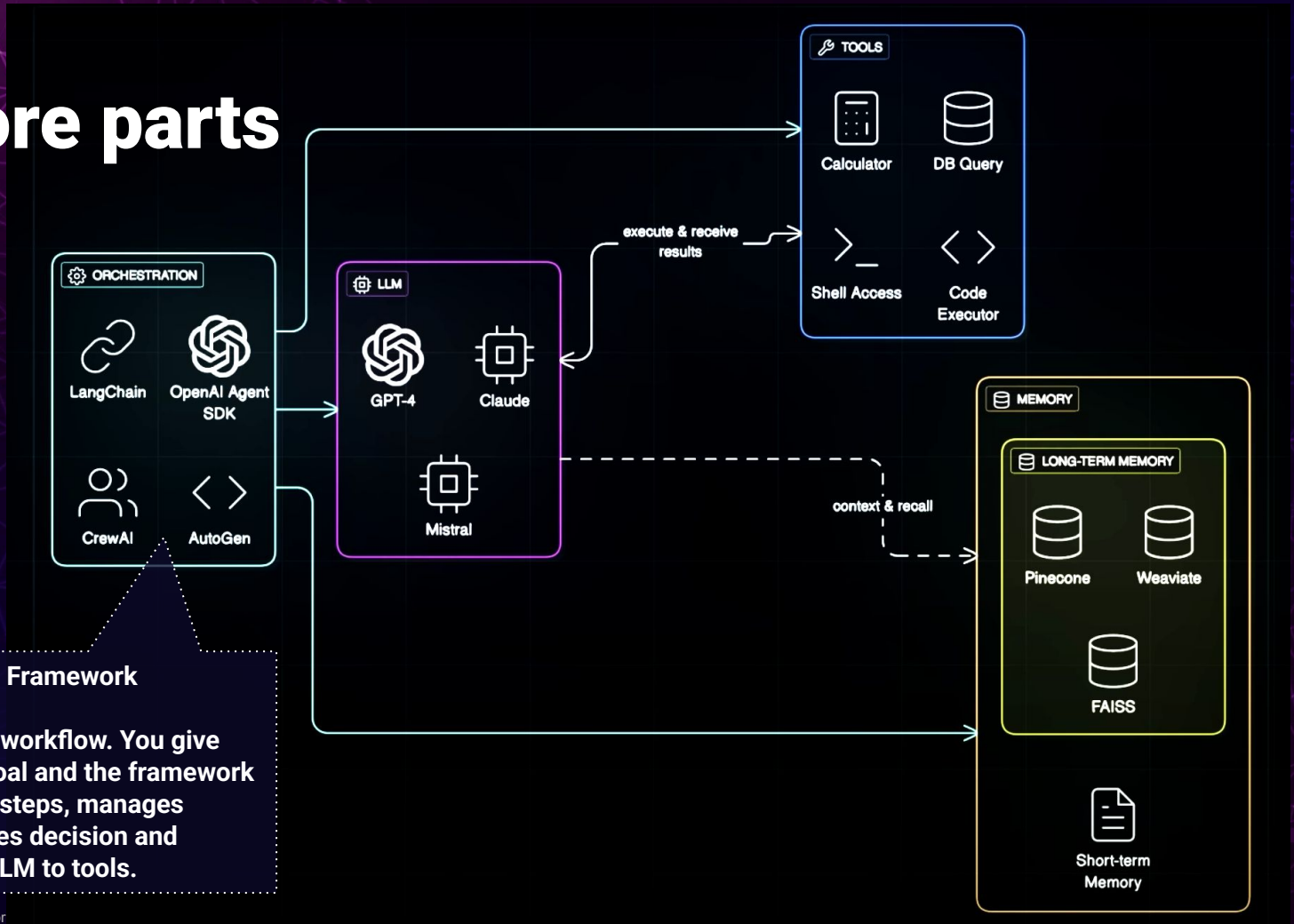
4 core parts



Tools or APIs

To do stuff in the real world

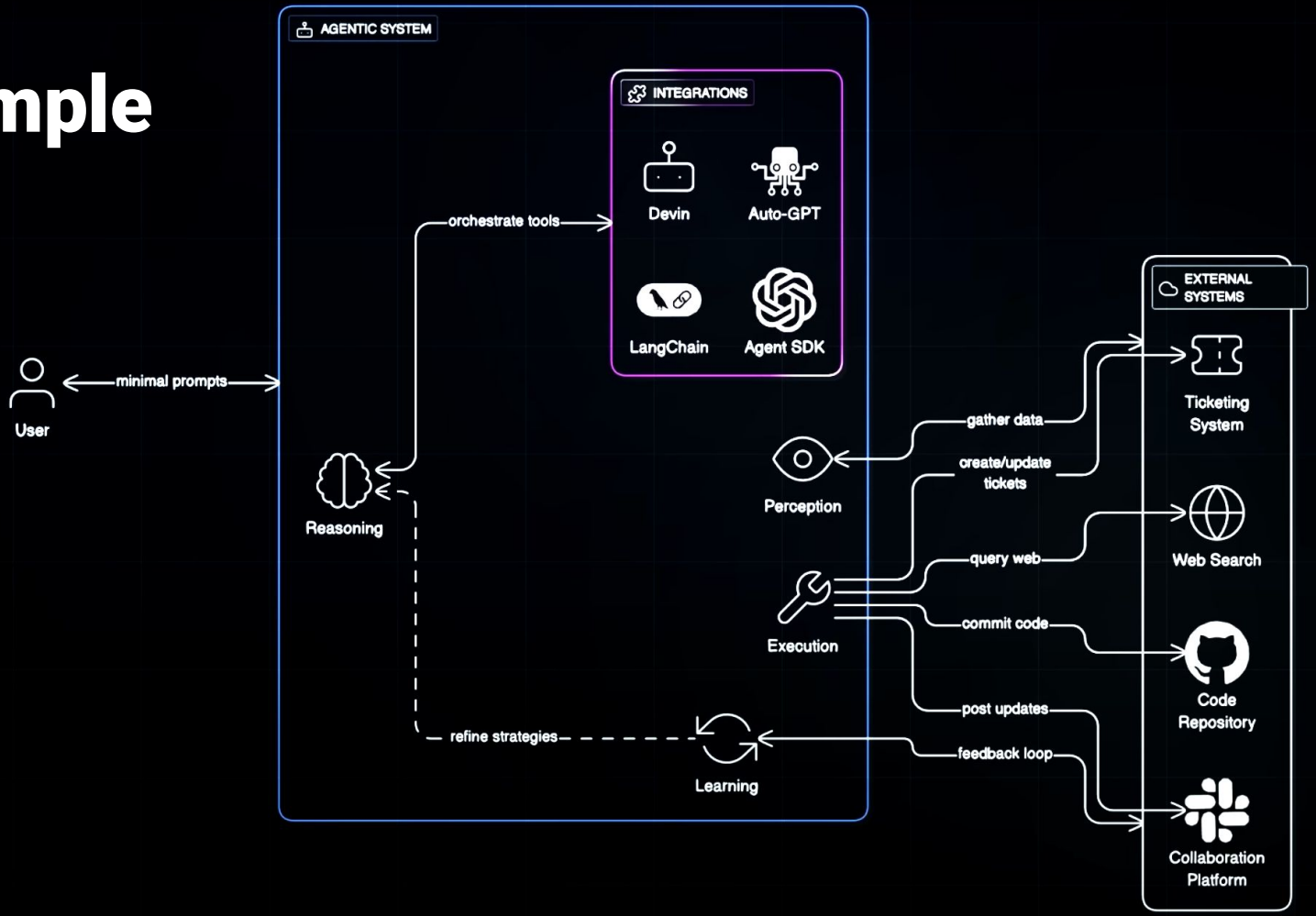
4 core parts



Orchestration Framework

It defines the workflow. You give the agent a goal and the framework breaks it into steps, manages memory, routes decision and connect the LLM to tools.

Example


AGENTIC SYSTEM
INTEGRATIONS
Devin
Auto-GPT
LangChain
Agent SDK
orchestrate tools
User
minimal prompts
Reasoning
Perception
Execution
Learning
refine strategies
gather data
create/update tickets
query web
commit code
post updates
feedback loop
EXTERNAL SYSTEMS
Ticketing System
Web Search
Code Repository
Collaboration Platform

Demo

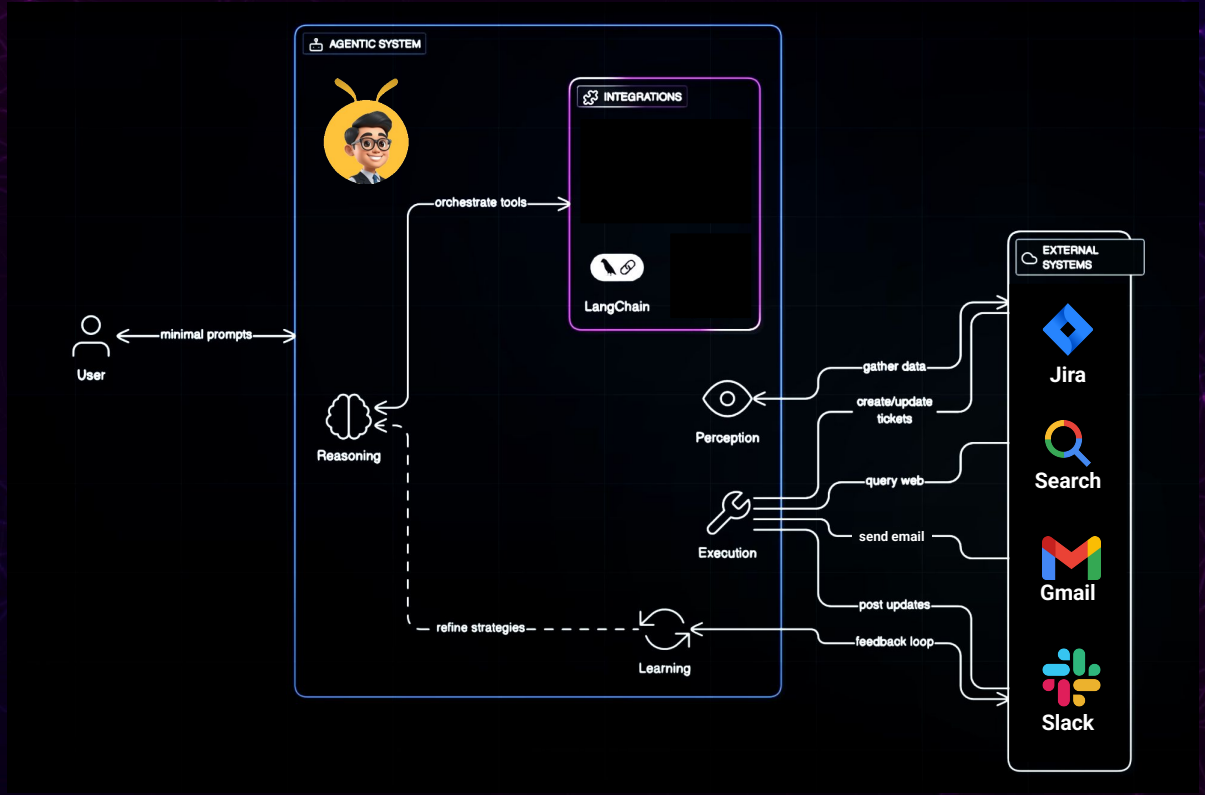
Agentic to manage tools

Bob: your personal AI Agent

With a simple prompt, he's able to:

- Find tickets in Jira and create reports
- Access internet to search for information
- Retrieve, create and send emails
- Send chat messages in Slack
- Analyze documents, and more

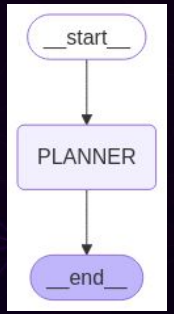
Bob: your personal AI Agent



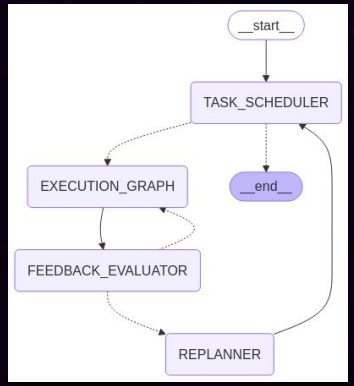
Bob: your personal AI Agent

Multiple specialized agents

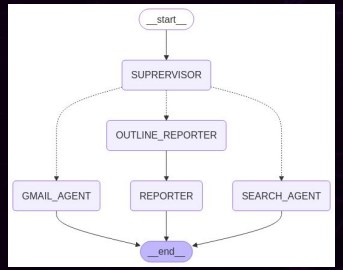
Planning



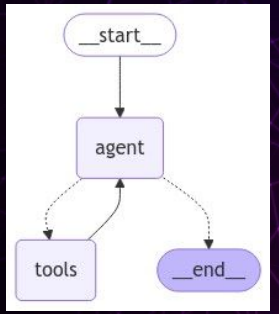
Execution



ReAct Agents (execution graph)



Tools



Your Entire Digital Workspace

app.ecitonx.com/agents

Work

ecitonX

- Agent profile
- Chat with Agent
- Knowledge Database
- Tools
- Usage

Your team has used 17.8% your available credits. Need more?

Dismiss Upgrade plan

- Feedback
- User Settings

Pablo Fernández
pablo.fernandez@artinle...

https://app.ecitonx.com/chatbot

Agents

Agents

My First Agent

Marketing Manager | GPT 4o

Agent Information

Edit agent

Agent name:	Pablo Agent
Agent role:	Marketing Manager
Agent description:	You are an expert in market research and marketing
Agent ID:	6848b904b8226486651f4e5e
Created by:	Pablo Fernández
Your QR Code:	
Agent status:	Active

artinleap.atlassian.net/jira/s...

Work

Create

Projects

VivaTech

Summary | Timeline | Board | Calendar | More 9

Group

Filter

TO DO 5

- Bug in Login Page — VIVA-1
- Add new AI Model — VIVA-2
- Sales Report Generation — VIVA-4
- Bug in Chat — VIVA-5
- Bug in Image — VIVA-6

Create

IN PROGRESS 2

- Launch Marketing Campaign — VIVA-3
- Bug Crashing the Application — VIVA-7

Quickstart

Link

HAAS

Hierarchical Autonomous Agent Swarm

Multi-Agent Framework (MAF)

- AI teams of agents.
- Agents interact, share information, and solve problems together.
- Lays the foundation for powerful Hierarchical Autonomous Agent Swarm (HAAS) systems.

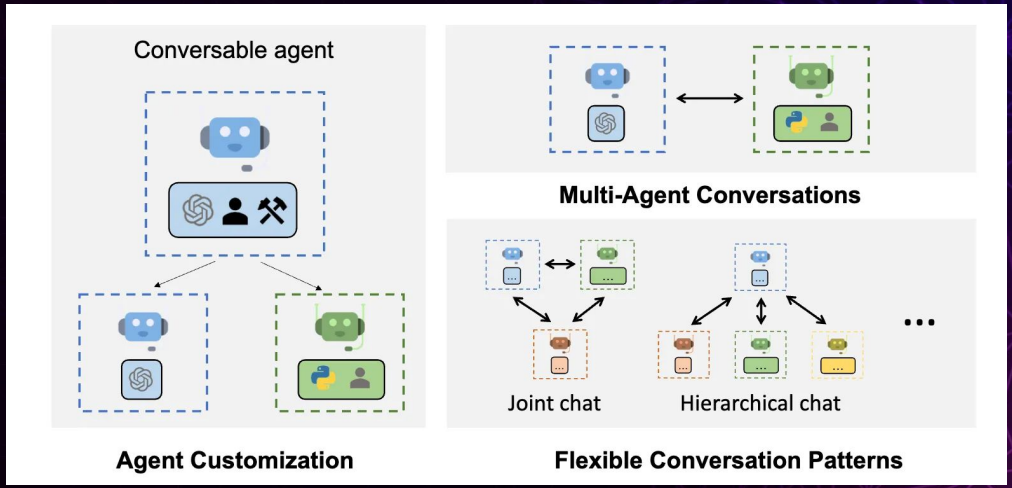
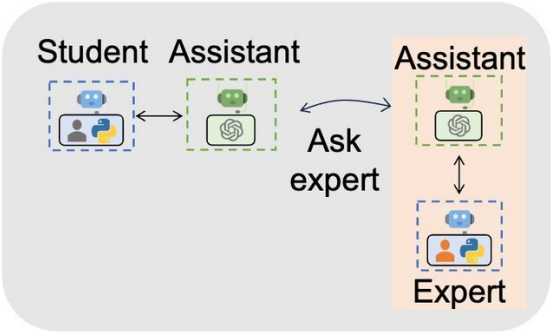
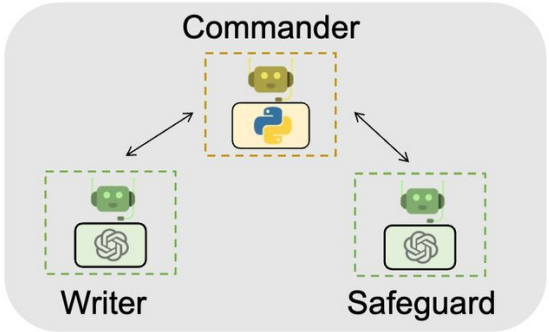


Diagram source: https://medium.com/@rudresh.narwal/breaking-boundaries-how-autogen-transforms-llm-applications-with-multi-agent-conversations-efc98b82da9c

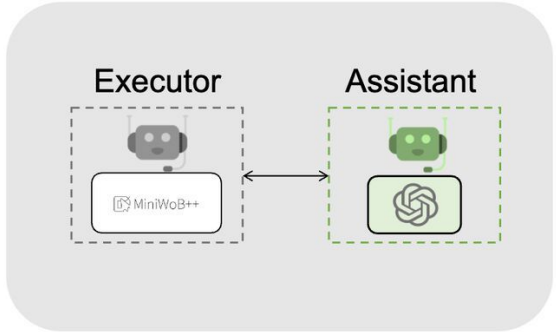
Multi-Agent Framework (use cases)



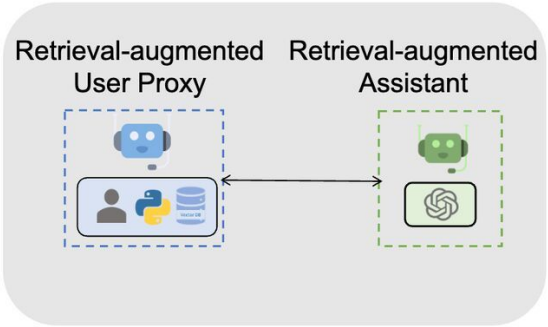
A1. Math Problem Solving



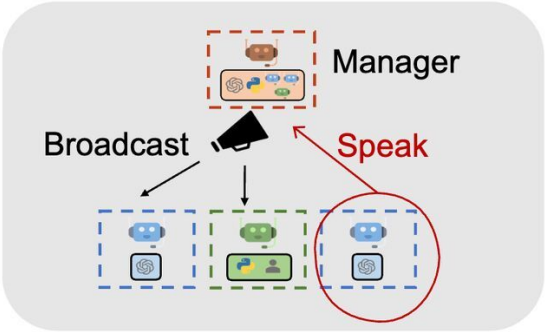
A2. Multi-agent Coding



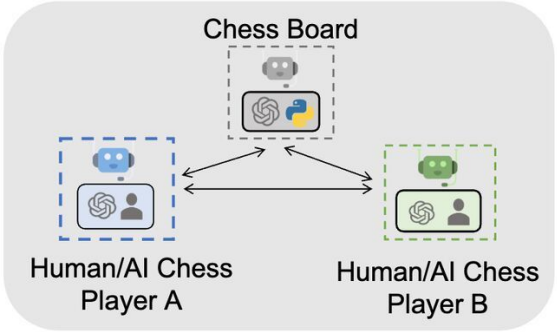
A3. Online Decision Making



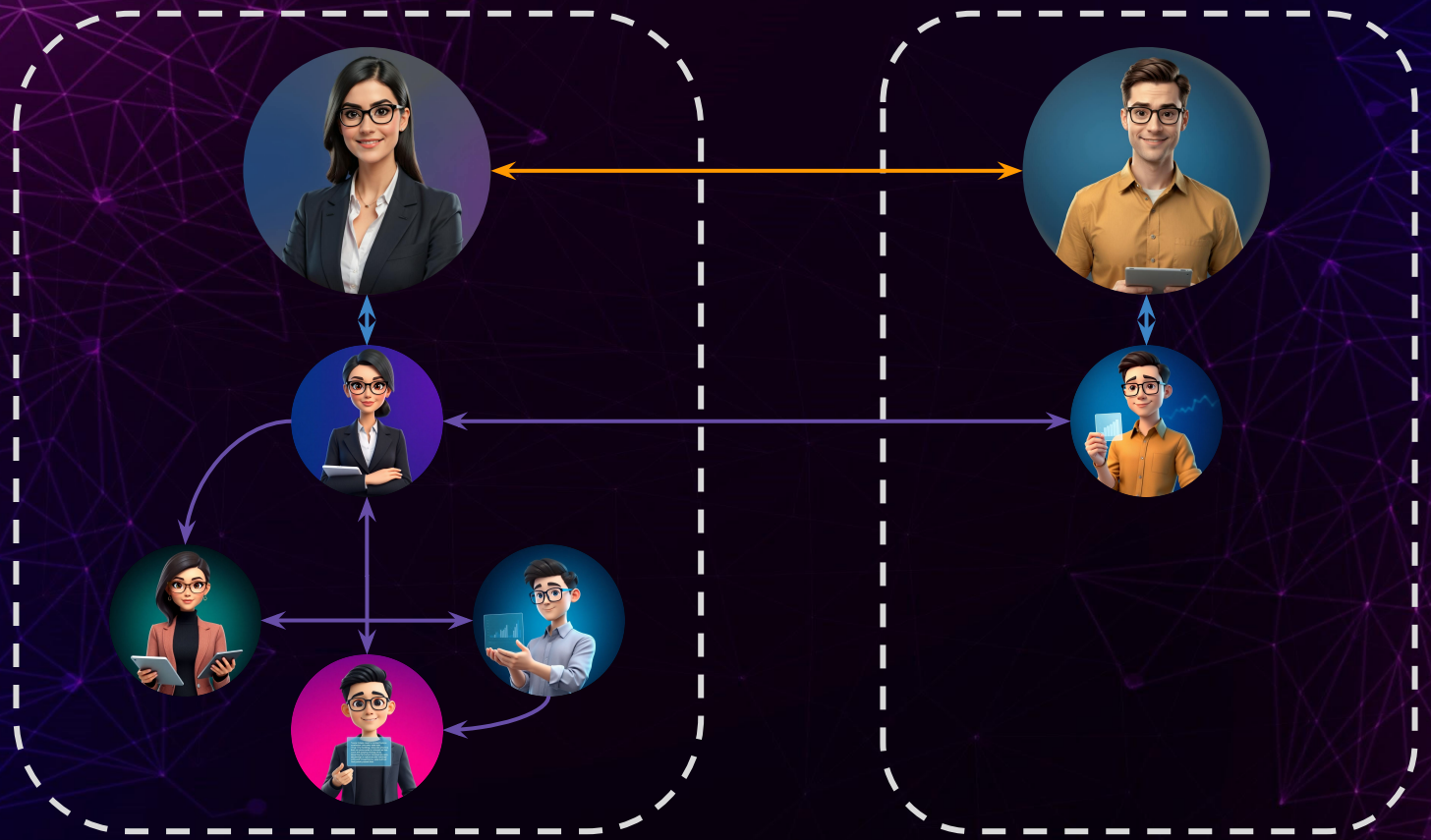
A4. Retrieval-augmented Chat



A5. Dynamic Group Chat



A6. Conversational Chess



Market Research

Proof of Concept

Link

Watch AI Agents *amplify* human communication, *accelerate* growth, *optimize* decisions

TRY YOUR FREE AGENT

www.ecitonx.com

Future of Work

Impact of AI

Positive Impact

- **Enhanced Decision-Making:**
  - AI agents analyze 1000x more data points than humans, leading to 37% more accurate decisions McKinsey (2023)
- **Time Reclamation** :
  - Professionals gain back 6-9 hours weekly from routine tasks MIT Sloan (2023)
- **Cognitive Augmentation:**
  - 84% of knowledge workers report increased capacity for creative and strategic thinking Harvard Business Review (2023)
- **Skill Amplification:**
  - Employees with AI agents show 3.2x productivity in specialized domains Accenture (2023)

Negative Impact

- **Operational Risks**
  - **Hallucination amplification**
    - in multi-agent systems Cornell University (2023)
  - **Compounding error problem**
    - (42% error rate increase) MIT Technology Review (2023)
  - **Dependency risks and system brittleness** World Economic Forum (2023)

- **Workforce Concerns**
  - **Task displacement**
    - affecting 35% of current work activities McKinsey (2023)
  - **Skill atrophy**
    - from over-reliance on AI assistance Harvard Business Review (2023)
  - **Widening digital divide**
    - between AI-augmented and non-augmented workers Brookings Institution (2023)

Recommendations

Best Practices

- **Clear Objective Setting**
  - Define specific, measurable goals aligned with business objectives
- **Modular Design Implementation**
  - Develop flexible, scalable architecture with single-responsibility agents
- **Continuous Monitoring & Feedback**
  - Implement systematic tracking and optimization with human oversight
- **Define Guardrails & Safeguards**
  - Establish clear boundaries and intervention protocols for agent operation

Mistakes to Avoid

- **Building Everything as an Agent**
  - Not every task requires agency; use simpler automation for routine processes
- **Tool Overload**
  - Limit to 4-5 essential tools per agent to prevent complexity and errors
- **No Feedback Loop**
  - Failing to incorporate user feedback and performance metrics for improvement
- **Eliminating Human Oversight**
  - Removing human judgment from critical decisions and quality control

Job Transformation

- **From Jobs to Tasks**
  - Jobs aren't disappearing—they're decomposing into tasks. AI agents handle routine, repetitive tasks while humans focus on high-value activities requiring judgment, creativity, and emotional intelligence.
- **The Rise of the Creative Generalist**
  - Specialized knowledge becomes less valuable as AI can access and process domain expertise. Instead, the ability to connect ideas across domains, ask insightful questions, and direct AI tools becomes premium.
- **Billion Dollar Teams**
  - Future organizations will consist of small human teams augmented by AI agents, creating exponential value. A single person with the right AI agents can accomplish what previously required entire departments.

"We're not automating jobs away—we're automating tasks away and elevating humans to focus on what they do best: creativity, strategy, and relationship building."

— Ian Beacraft, Author of "Billion Dollar Teams"

Organization Hierarchy Evolution

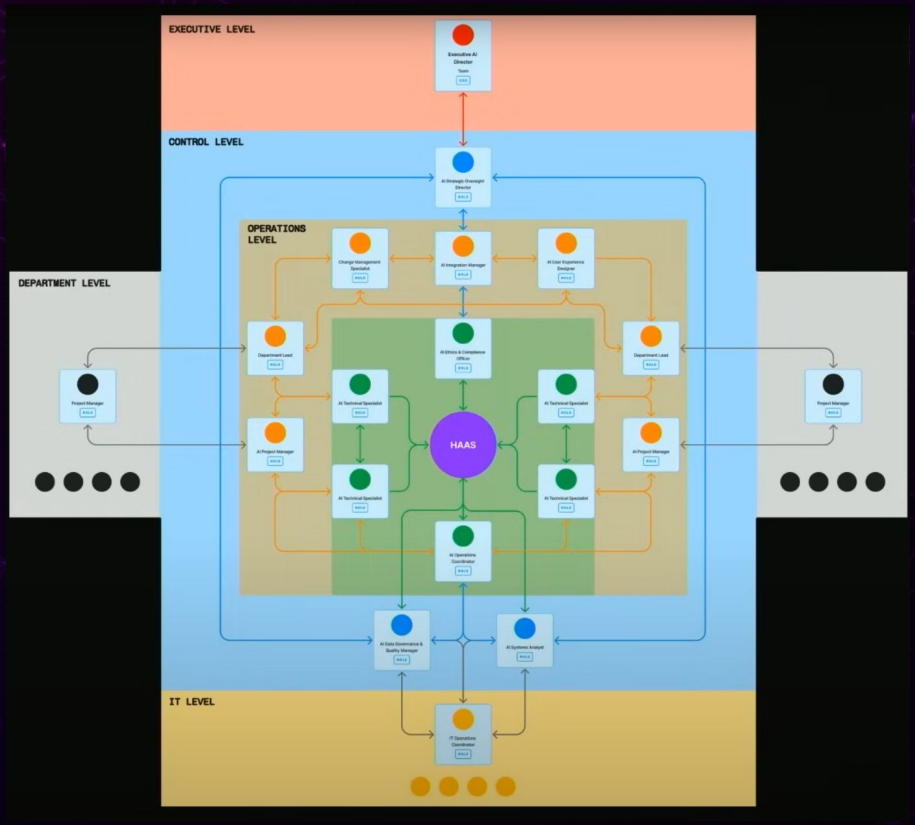
Emerging roles in Agentic Orgs

- **Vision Orchestrators**
  - Strategic leaders who define objectives and coordinate human-AI teams
- **Agent Architects**
  - Technical experts who design, build, and optimize AI agent systems
- **Human-AI Collaborators**
  - Specialists who excel at working with AI systems to solve complex problems

Aspect	Traditional	Agentic
Structure	Hierarchical, Siloed	Networked, Fluid
Decision Making	Top-down, Centralized	Distributed, Augmented
Team Size	Large Departments	Small Pods + AI Agents
Skill Focus	Specialization	Orchestration
Productivity	Linear Scaling	Exponential Scaling

Hierarchical Autonomous Agent Swarm (HAAS) systems

“The future of organizations is agent driven”



Role Reversal

- AI systems initiate requests to humans for judgment, creativity, and domain expertise

Cognitive Augmentation

- Humans focus on uniquely human capabilities while AI handles coordination and execution

Source: Billion Dollar Teams: The Future of an AI Powered Workforce | Ian Beacraft

Key Takeaways

- **AI Agents Augment, Not Replace**
  - The most successful implementations focus on human-AI collaboration rather than replacement, creating superminds that exceed the capabilities of either alone.
- **Task Automation, Not Job Elimination**
  - Jobs decompose into tasks, with AI handling routine components while humans focus on judgment, creativity, and interpersonal elements.
- **Orchestration is the New Specialization**
  - The ability to coordinate AI agents and integrate their outputs becomes more valuable than narrow domain expertise.
- **Phased Implementation is Critical**
  - Organizations should follow a progressive journey: Personal Augmentation → Superteams → Autonomous Enterprise.
- **Ethics and Sovereignty by Design**
  - Successful implementations prioritize human oversight, data sovereignty, and ethical guardrails from the beginning.

THANK YOU!

E-mail

- info@artinleap.com

Address & Phone

- 1047 Route des Dolines, Business Pole, 06560 Valbonne, SOPHIA ANTIPOLIS
- Phone: +33 977 198 654

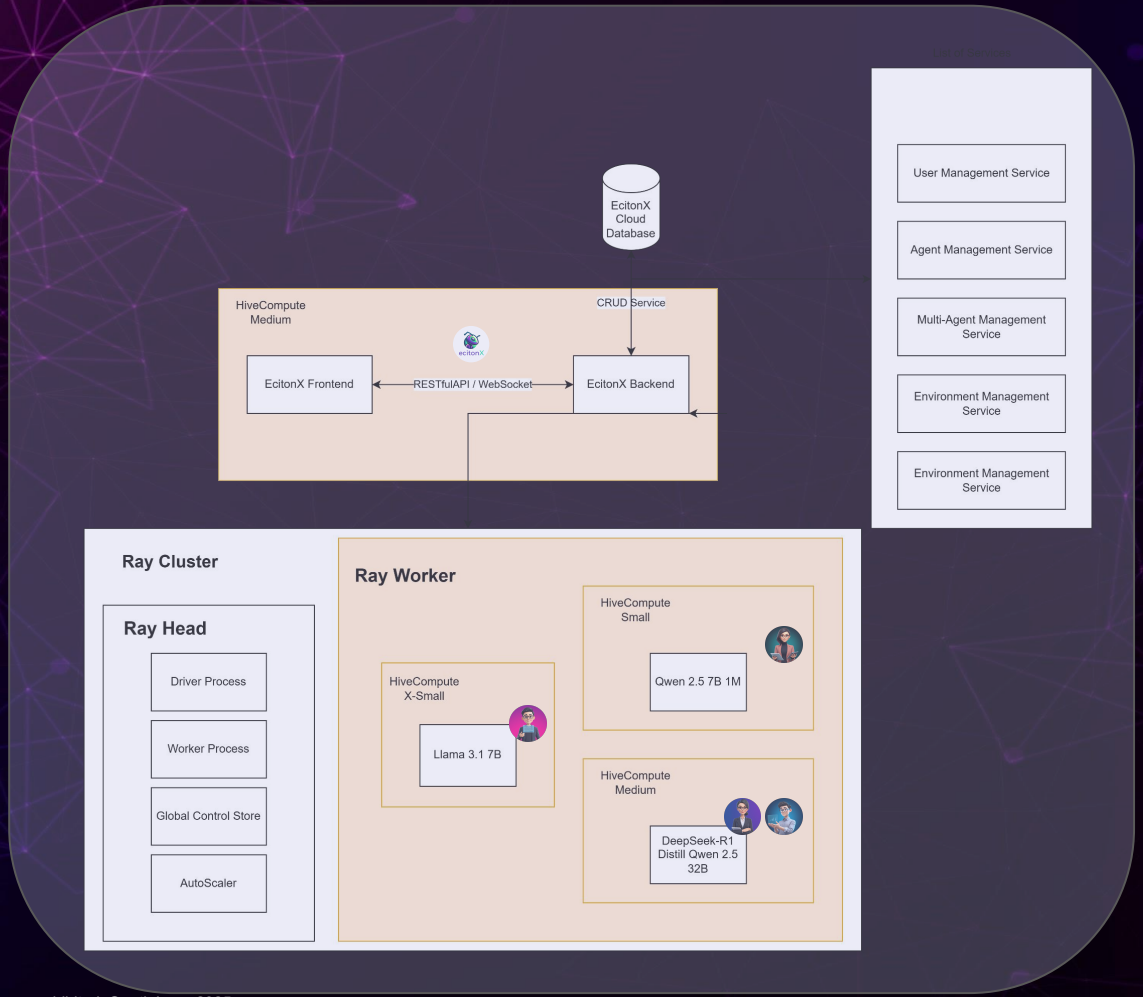
FOLLOW US

www.artinleap.com

Thank you!

Miscellaneous

Tech



Our inspiration: Eciton burchellii (army ant)

- Highly Organized Societies: ants form complex societies with specialized roles.
- Collective Intelligence: remarkable problem-solving abilities through coordinated group behavior.
- Adaptability: highly adaptable to changing environments.
- Resilience: They can withstand harsh conditions and recover from setbacks.

Agentic to Deploy code update

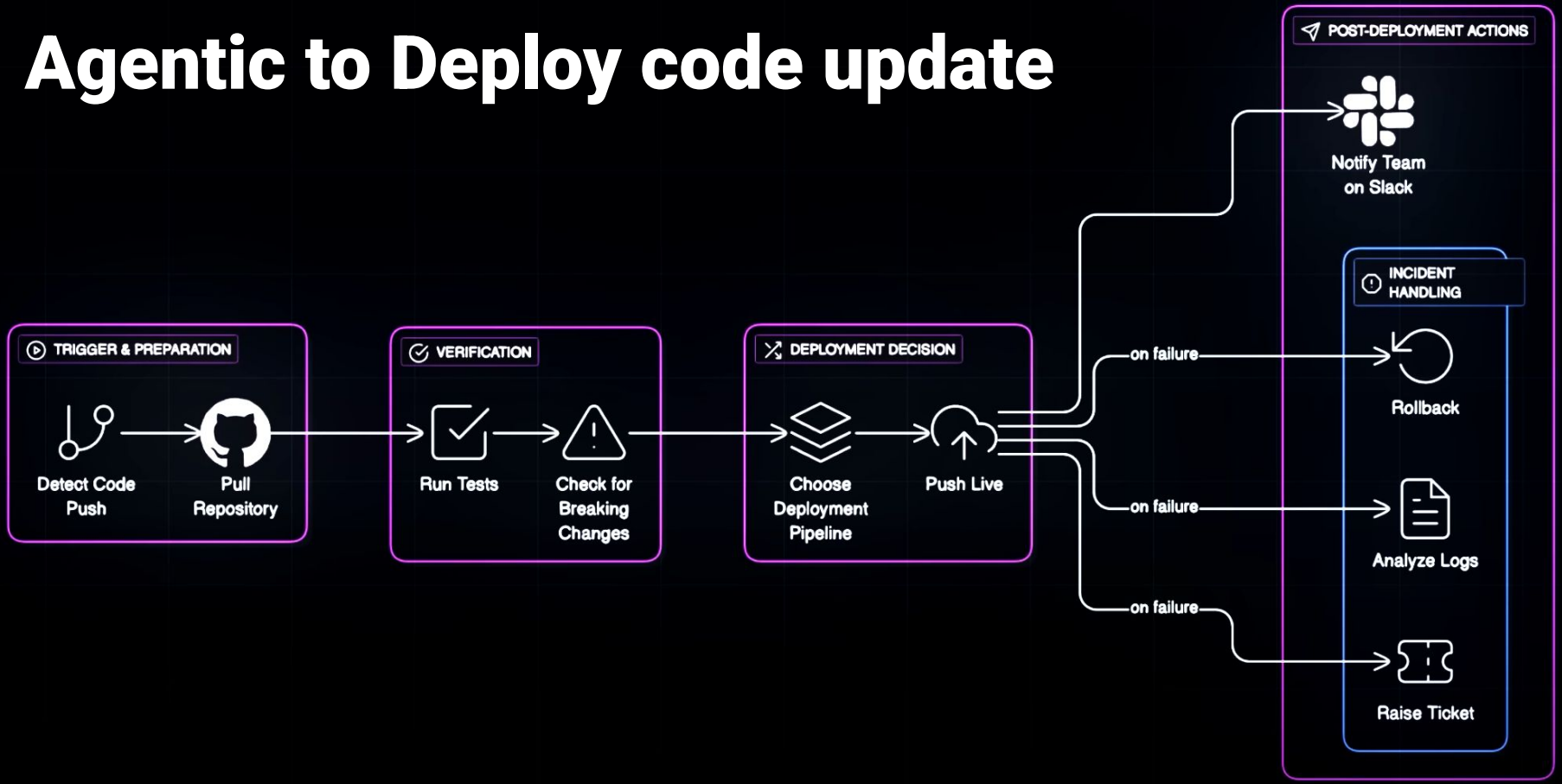


Image source: ByteMonk