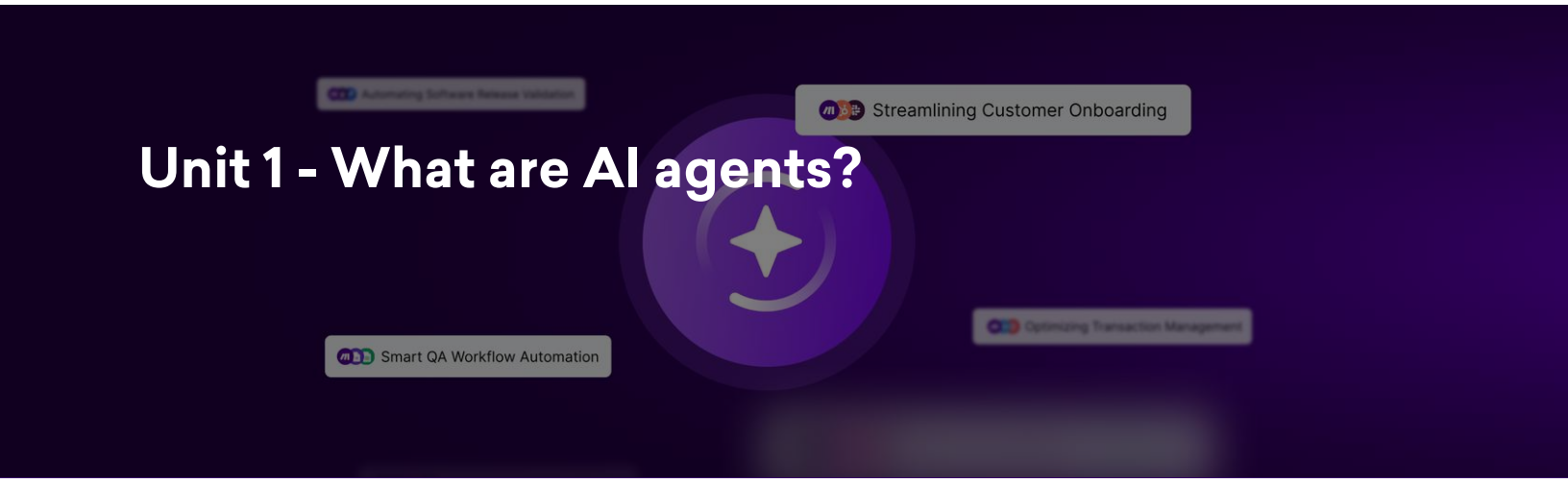


Unit 1 - What are AI agents?

UNIT 1: WHAT ARE AI AGENTS?

Unit 1
What are AI agents?

1.1 Unit Introduction

Welcome to the first unit of the course AI agents for beginners!

In this unit, you will start investigating AI agents and collecting useful information to understand how they work.

You will learn:

- what AI agents are
- the different types of AI agents
- what AI agents can do

Get ready, your exploration is about to begin!

Continue to 1.2: What is an AI agent?

1.2 What is an AI agent?

An AI agent is a type of software that can act on its own to achieve a specific goal.

It **reacts to what happens** (like a user asking something, a file being added, or a system change) and **starts working** without needing someone to control it directly and performs the tasks needed to achieve its objective.

It is called **agent** because it has **agency**, meaning it can understand what's happening, make decisions, and take action to achieve its goal.

An AI agent is like Derek the Detective, the best in his department at solving the most complicated cases. Simply tell him that a theft just happened, and you'll get the criminal behind bars in no time. He'll do all the work for you: study the case, investigate, and arrest Tyler the Thief.

Continue to 1.2.1: AI agents - tell me more

1.2.1 AI agents - tell me more

AI agents use artificial intelligence, especially large language models (LLMs), to understand what's going on, make plans, and decide what to do next. LLMs will be covered in the next course.

They can also **learn from experience**, **remember past tasks**, and **change how they act** based on what worked well before.

To get things done, they often use **tools** like calculators, websites, or apps. These help them **do things they can't do with language alone**.

Once set up, **AI agents can work in many different situations on their own**, usually with **no help from a human**.

Why is Derek so good? He picks up on clues fast, figures things out, and uses whatever tools he needs to crack the case. He learns from past experiences and adapts as he goes, all without needing someone to tell him what to do every step of the way. You would want him working on your case, right?

For sure this sounds very exciting, but it's very theoretical. Can you give me a more practical example?

Of course! Imagine an **AI agent that manages the inventory** of the shop ***I Can't Help Falling in Love with Clues***, that sells magnifying glasses, pipes, and Sherlock

Holmes' hats.

AI agents in inventory management can **automatically track stock levels**, **predict future demand**, and **reorder products when stock is low**. They can **analyze sales patterns**, **seasonality**, and other factors to ensure inventory is always at optimal levels, without the need for human intervention.

Let's have a look at how AI agents process information and take action to achieve their goals.

Continue to 1.3: Understanding AI agents

1.3 Understanding AI agents

AI agents follow a precise process to complete their tasks.

Click each image to learn more.

Continue to 1.3.1: AI agents classification 1 - functionality

1.3.1 AI agents classification 1: functionality

AI agents can be grouped into categories based on what they do.

Click each item to learn more.

Simple reflex

React instantly to an event using fixed rules: **“if X happens, do Y"**, e.g. a thermostat that turns the heating on when the temperature drops.

Model based reflex

Keep a **mental map of the environment** and use that memory to make smarter decisions, e.g. a vacuum robot.

Goal based

Work toward a specific goal. They think ahead and choose the actions that get them closer to it, e.g. a GPS.

Utility based

Choose actions based on what will give the **best outcome** according to a set of preferences or values, e.g. a self driving car.

In Make, which kind of agents do you have?

Derek the Detective

Click to see the answer to Derek's question

Within Make you can find **goal based agents.** All you need to do is give your AI agent an objective and the agent will determine the necessary steps to achieve it.

You will learn more about AI agents in Make in the next course.

Continue to 1.3.2: AI agents classification 2 - number of agents

1.3.2 AI agents classification 2: number of agents

AI agents can also be classified based on the number of agents involved.

Click each item to learn more.

SINGLE AGENT | MULTIPLE AGENTS

This type of agent **works alone to complete an easy task**. It uses the tools it needs to get the job done and doesn't rely on other agents. It's ideal for tasks that are simple, well-defined, and don't need teamwork, e.g. a chatbot that handles customer support on its own.

SINGLE AGENT | MULTIPLE AGENTS

Several agents work together towards one goal. Each one has different skills and tools. This setup is useful for handling more complex problems and can mimic how people interact or collaborate, e.g. air traffic control systems.

Tell me about Make again, which kind of agents does it have?

Derek the Detective

Click to see the answer to Derek's question

In Make, you can build a **multi-agent system** where AI Agents use Tools to trigger other AI Agents, forming a chain of specialists, each handling a specific task.

Continue to 1.3.3: Real-life examples

1.3.3 Real life examples

After all of this theory it's finally time to look at some practical examples in which you can use AI agents.

Click each one to learn more.

CUSTOMER AGENT | EMPLOYEE AGENT | DATA AGENT | SECURITY AGENT

A customer agent helps people on websites, especially in online stores. For example, a chatbot on a retail site can help customers track their orders, answer questions, or suggest products they might like.

The main goal is to **make the customer experience better by offering quick, helpful, and personalized support**.

CUSTOMER AGENT | EMPLOYEE AGENT | DATA AGENT | SECURITY AGENT

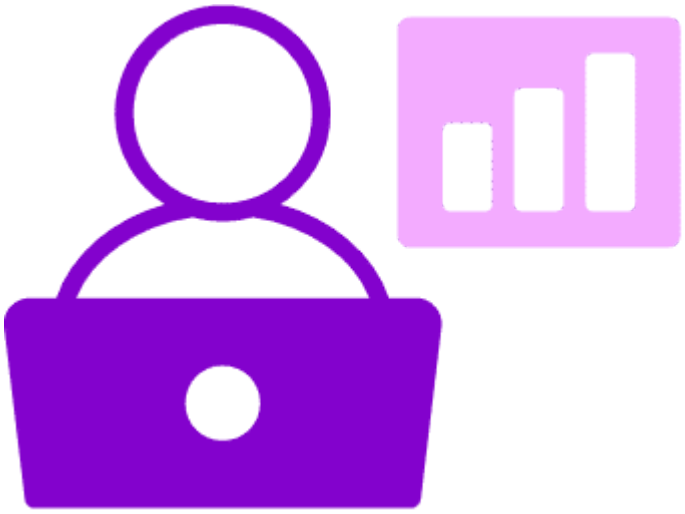
An employee agent supports people within a company. For example, an AI onboarding assistant can guide new employees through paperwork, setting up tools, and basic training.

The main goal is to **help internal operations by assisting employees with administrative tasks, training, and onboarding**.

CUSTOMER AGENT | EMPLOYEE AGENT | DATA AGENT | SECURITY AGENT

A data agent works with large amounts of information to support or even make decisions. For example, an AI Agent can scan long reports and create short summaries, or take action based on what it finds.

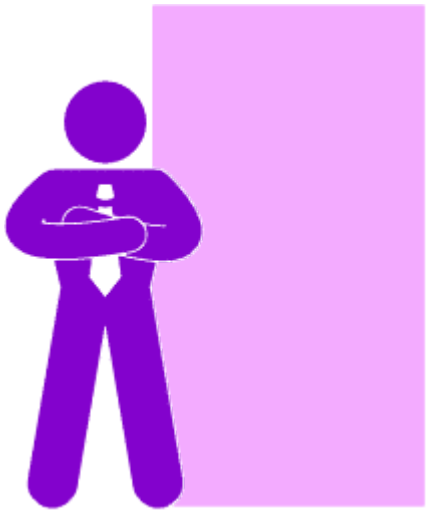
The main goal is to **collect, process, analyze, and summarize data to support or automate decision making**.



CUSTOMER AGENT	EMPLOYEE AGENT	DATA AGENT	SECURITY AGENT

A security agent helps protect systems by keeping an eye out for threats. For example, an AI Agent can detect phishing attempts by spotting unusual activity and flagging risks in real time.

The main goal is to **monitor systems for potential threats, ensure compliance, and respond to security issues, taking action automatically to prevent harm**.



Continue to 1.3.4: Agents, assistants and bots

1.3.4 Agents, assistants and bots

You've probably heard of bots and AI assistants, but you might be wondering how AI agents are

different. Bots, AI assistants, and AI agents are all computer programs that help with tasks, but they don't work the same way.

Click each one to learn more.

BOTS | AI ASSISTANTS | AI AGENTS

Bots follow simple rules to do things like send automatic replies in a chat.

They can **handle basic tasks and only react to clear commands or triggers**. They don't really learn or adapt, they just follow a script.

They're like Richard the Receptionist that greets visitors and sends them to the right place by following a script.

BOTS | AI ASSISTANTS | AI AGENTS

AI assistants (like **Siri** or **Alexa**) are a bit smarter than bots.

They answer your questions, help you with simple tasks, and give you useful information. They can suggest what to do next, but you're the one who decides. **They only do something when you ask.**

Think of Angela the Archivist: she helps Derek by finding the right files or giving tips, but she waits for him to ask and doesn't make choices on her own.

BOTS | AI ASSISTANTS | AI AGENTS

As you've learned in this unit, **AI agents** go even further. They work on their own to reach a goal, make decisions by themselves, use tools, and adjust to new situations.

They don't need to wait to be told what to do, they're proactive, can handle complex tasks with many steps, and **keep learning** to get better over time.

You already know what an amazing detective Derek is. No need to keep repeating it here.

Are AI agents replacing bots and AI assistants?

Derek the Detective

Click to see the answer to Derek's question

AI agents are not going to replace bots and AI assistants, but they will contribute to their

evolution. Many modern AI assistants are becoming more agent-like by adding autonomous features that allow them to perform simple tasks on their own. But simpler bots and assistants are still widely used for straightforward tasks because they're easier to control and more predictable.

In summary:

AI agents represent the next step, more autonomous, goal-driven systems, but bots and AI assistants still play a big role, especially for reactive, user-driven interactions.

Continue to 1.3.5: Advantages of AI agents

1.3.5 Advantages of AI agents

You've seen how AI agents can be helpful, but if you need more reasons, here are the benefits of using AI agents.

1. AI agents **boost efficiency and productivity by taking care of repetitive or time-consuming tasks**, like scheduling meetings, managing emails, or monitoring data, so users can focus on more strategic work.

2. They **analyze data in real time**, **helping with better decision-making**, such as spotting trends in customer behavior or finding the best delivery routes.

3. AI agents have advanced abilities, like working across different tools or platforms to carry out complex tasks on their own. They **help users achieve more by planning ahead, adjusting to changes, and acting without needing constant guidance**.

Continue to the wrap up for this unit

1.4 Wrap up

1

An **AI agent** is a smart program that **works on its own to reach a goal**. When asked to do a job, it gets it done without needing someone to guide it step by step.

2

AI agents follow a cycle to get things done: they **observe** their environment, **understand** what's happening, **decide** what to do, **make a plan**, **take action**, **communicate** if needed, and **learn** from the results to improve over time.

3

AI agents can be **used in many areas to make work easier and faster**. They can assist customers on websites, help employees with training and tasks, process and summarize data for better decisions, and protect systems by spotting and responding to security threats.

Unit complete!

Good job! You have started to collect information on AI agents.

By now you should have an understanding of:

- **what AI agents are**

- **the different types of AI agents**
- **what AI agents can do**

In the next unit you will learn in more detail how AI agents work. Time to keep investigating!

make | academy

Mark this task complete to continue to the next unit.