Autonomous Intelligence

Autonomous Multi Agent AI Systems

Anote

Future of Autonomous Agents

The challenge

Collaborative, Autonomous Intelligent Multi Agent AI Systems are going to be **abundant in the next 3-5 years**

We need to make sure that as many people as possible have a say in **what this technology will look like**

What is Agentic AI?

Autonomy → ability to make decisions and perform a sequence of actions on its own without human input

Data Driven → ability to ingest vast amounts of data from multiple data sources

Extended Reach → ability to integrate with 3rd party applications and use external tools

Component	Description
Orchestrator	Central hub for task assignment, execution, and monitoring. Manages agent interactions and refines workflows dynamically.
Agent	An autonomous unit programmed to perform tasks, make decisions, and communicate with other agents.
Task	A specific assignment completed by an agent, providing all necessary details like description, tools, and responsibilities.
Crew	A collaborative group of agents working together to achieve a set of tasks. Crews define strategies for task execution and agent collaboration.
Process Implementations	Frameworks for agent collaboration. This includes sequential tasks that are executed in an orderly progression, or hierarchical tasks are managed via a structured chain of command
Large Language Models (LLMs)	Backbone of intelligent agents, enabling capabilities like natural language understanding and reasoning. Includes models like GPT, Claude, Mistral, Gemini, and Llama that are Optimized for complex workflows.
Tool	A skill or function agents use to perform actions, that includes capabilities like search, computer use, data extraction, file uploading and advanced interactions.

Balancing Precision and Flexibility

Flexibility **Precision**

Dynamic Workflows	Pre-determined Workflows
Variety of Tasks	Domain or Task specific
Few General Agents	Fine tuned and Specific Agents
Independently reason	Structured Collaboration

Example Precise Agent - Upreach Problem

Traditional outreach is tedious and ineffective

1

TIME CONSUMING

Finding the perfect leads is difficult and takes too long

2

INEFFICIENT

Hard to find a tailored way to reach out at scale

3

REPETITIVE

A daily iterative process that requires too much manual labor

Example Precise Agent - Upreach Solution

A user (i.e. sales development representative) comes to Upreach and requests a specific list of leads and a tailored email to send.

data foundation + the web

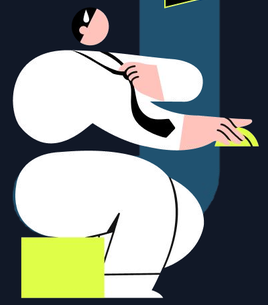
	First Name	Last Name	Role	Company	Verified?	Status
☐	David	Zhu	Software Engineer	Google		
	Abby	Viel	Product Designer	Microsoft		
✓	Johnny	Young	Associate Manager	Facebook		
✓	Audrey	Smith	Business Analyst	McKinsey		
	Christy	Lin	Product Designer	Google		

2 out of 200 results selected Page 1 of 20

Upreach will curate a large list of leads with contacts and a tailored message that will be automatically sent

1 CUSTOMER INQUIRY

Reach out to a list of 10,000 New York based heads of AI who work in mid-sized finance companies



2 AI WORKFLOW

The AI workflow processes this command and then creates and follows specific guidelines or rules to sift through the data to find the most useful results based on this input

- Have Job Title **"Data Scientist"**
- Work at Location **"California, US"**
- Work in Industry **"Technology"**
- Work at Company Name **"Apple"**
- Have Company Size **">1000"**
- Are Located in **"United States"**

3 THE DATA

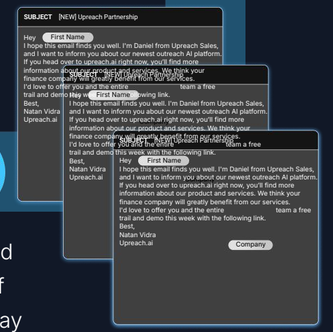
Sourcing our AI-powered data foundation plus the web, the agent sources out the most reliable leads and creates a tailored email

4 EMAIL / LIST

This cycle repeats itself regularly without any additional manual labor

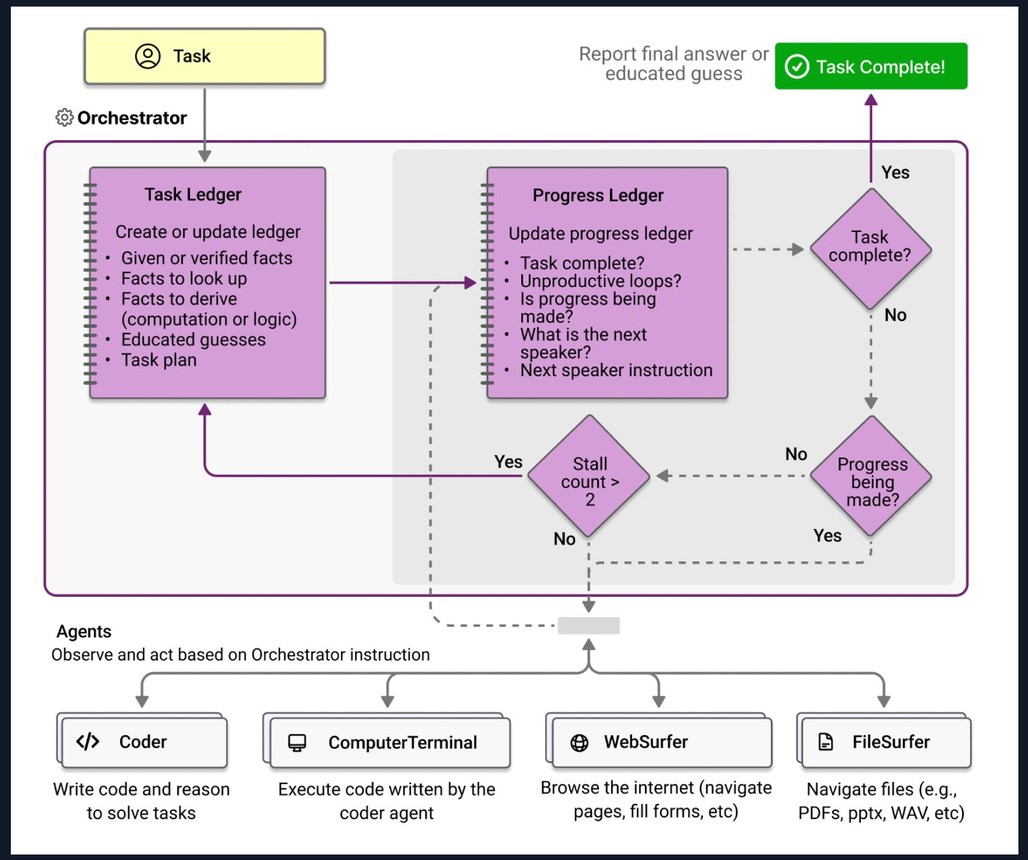
5 AUTOMATIONS

Emails will automatically be sent and shows the progress and amount of emails you send out to leads everyday



Example General Purpose Agentic Solution

How it works:



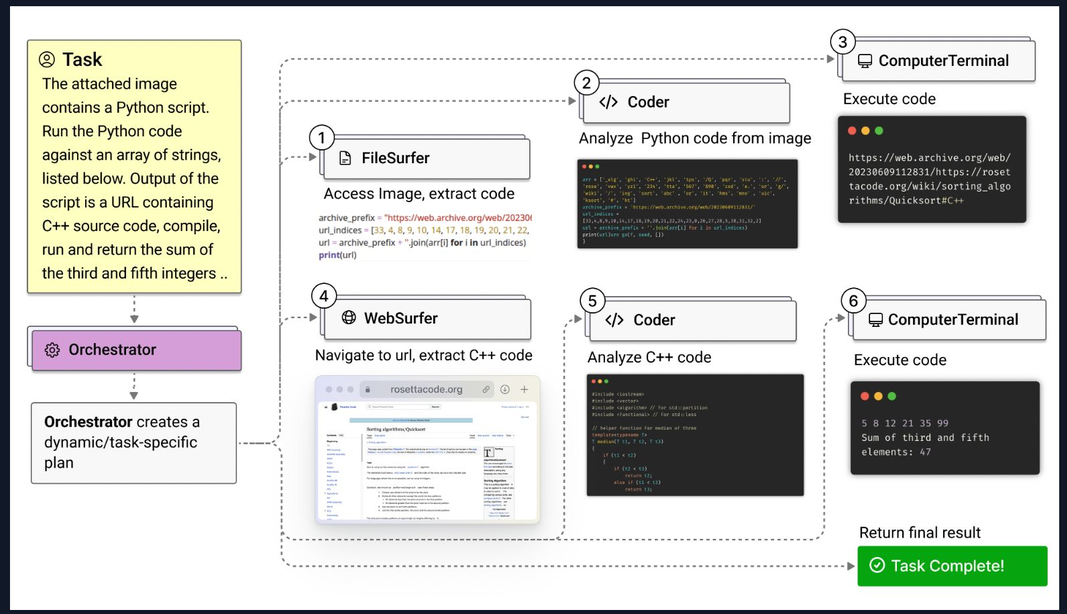
Use it to:

Find and Export Missing Citations

Describe Trends in the S&P 500

Order a Shawarma Sandwich

Count number of members of MSR HAX



Autonomous Intelligence

An open source project to create autonomous collaborative multi agent AI systems

Develop agents equipped with memory, reasoning, and tool capabilities. Each agent is designed to operate independently, handling tasks and managing state within a multi-agent environment.

Orchestrate interactions between agents as they collaborate on complex tasks. Panacea's system enables seamless communication and dynamic adjustment within agent teams.

Track agent performance through detailed metrics and logs. Optimize behavior in real-time, adjusting parameters and workflows to improve efficiency and achieve goals with minimal supervision.

How It Works

Can you tell me about how Autonomous Intelligence works?

Of Course! autonomous intelligence has a smart orchestration system that enables teams of agents to effectively work together using tools and models to complete task

The steps are as follows:

Step 1: Web Search Navigate to URL

Step 2: Scrape Text Obtain text from Github

Step 3: Extract Info Extract info from Github

Step 4: Retrieve Answer Questions from Text

Step 5: Verify Output Ensure output is in JSON

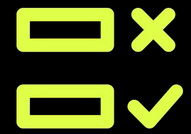
Step 6: Return to User Output answer to query

Summary of Open Source Project

Specific AI Agents for Registry

SDK for Agentic Framework

Use Cases and Case Studies



Agent Monitoring and Evaluation

Open Ended Questions

How can you optimize the orchestrator on any specific agent?

How do you evaluate agentic systems to ensure reliability?

What data do you need to train agentic models accurately?

Can you run these agents privately, on premise, with models like Llama3?

How do you effectively monitor these agents via logs to ensure that they are doing the correct tasks?