

# Generative AI for health agent

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# Objectives

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Introduction to Agents

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Creating RAG Agents on local machine



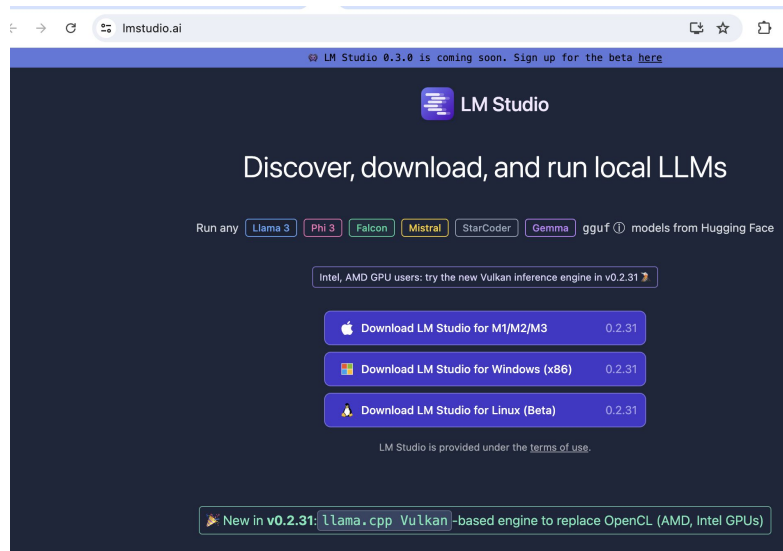
# Introduction to Agents

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- In simple words, agents is an AI assistant that is designed to perform self-determined task to perform a pre-determined task. Humans initially set the goals but an AI agent choose the best action it needs to perform to achieve the final goal.
- Key Features of LLM Agents:
  - Autonomy: operate without human intervention
  - Reactivity: response in real-time
  - Proactive: anticipate future events and take proactive measures.
  - Social Ability: Some AI agents are designed to interact with other agents, including both humans and other AI systems. Ex Robots, self-driving cars
- Applications in Healthcare:
  - Appointment scheduling
  - Medical information retrieval, and
  - Clinical decision-making

# How to create agents in local machine

- Machine: Windows/mac + others
- Installation steps
  - Install [LM Studio](#) (a desktop application to run LLM on local machine)
  - Python =>3.10
  - Create a python environment and Install following dependencies:
    - pip install langchain



# Popular frameworks

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- Popular framework/libraries:
  - **LlamaIndex**: It is a data framework specifically designed to build LLM-powered applications, focusing on efficient data indexing and retrieval.
  - **Langchain**: It is a most commonly used framework for developing general purpose applications powered by single or a multiple LLM model.
  - **DsPy**: It is a tool for debugging LLM applications and it prioritizes ease of use in experimentation with language models.
  - **CrewAI**: It focuses at creating multi-agent systems that collaborate on tasks and automate workflows.
  - **Autogen**: It simplifies the creation of conversational agents with its focus on prompt generation and dialogue management.

# Demo

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- An agent that helps you to identify the six general characteristics of stressful life events by Dohrenwend. For each characteristic, provide a score on a scale of 0-5, with 0 indicating the absence of the characteristic and 5 indicating its strong presence.
  - Source
  - Valence
  - Unpredictability
  - Magnitude
  - Centrality
  - Likelihood of overwhelming coping capacity



Demo