

# Healthcare with Agentic AI

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AWS Korea Public Sector Director



# Agentic AI on AWS

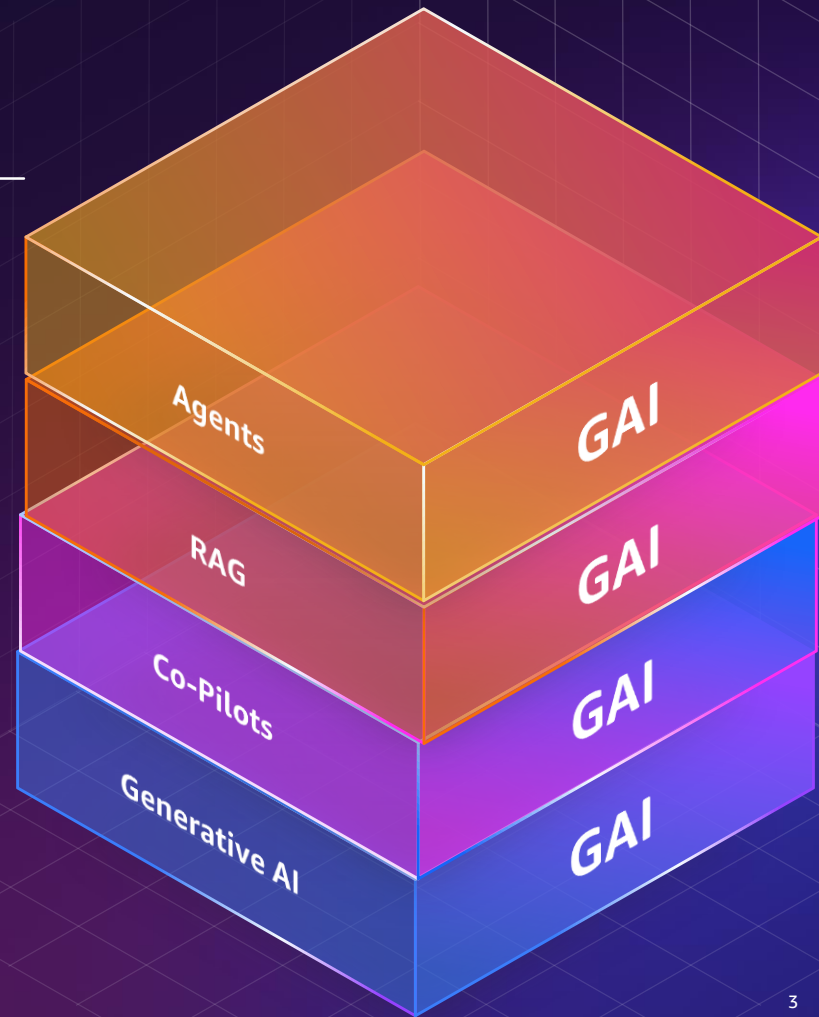


# The evolution of Generative AI

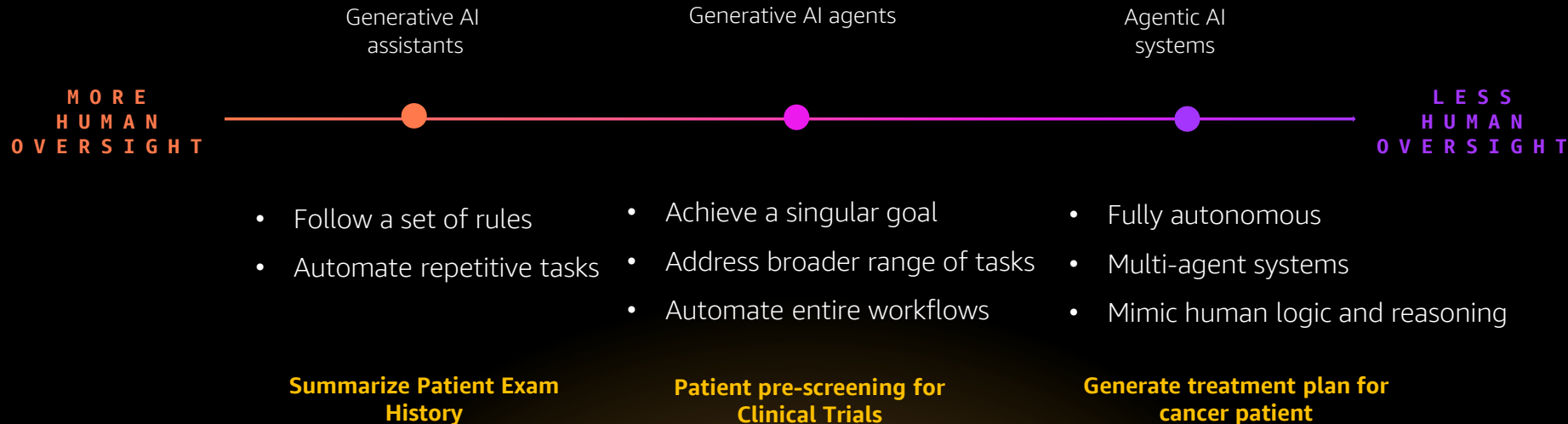
## AI AGENTS



Powered by Foundation models, AI Agents are autonomous software tools that perform tasks, make decisions, and adapt over time on behalf of humans or other systems, thereby enhancing efficiency across various applications.



# HCLS Industry Evolving into Agentic AI



# Enterprises are doubling down on agents

33%

of enterprise software apps will include agentic AI by 2028, up from less than 1% in 2024.

Gartner, "Top strategic Technology Trends for 2025," October, 2024.

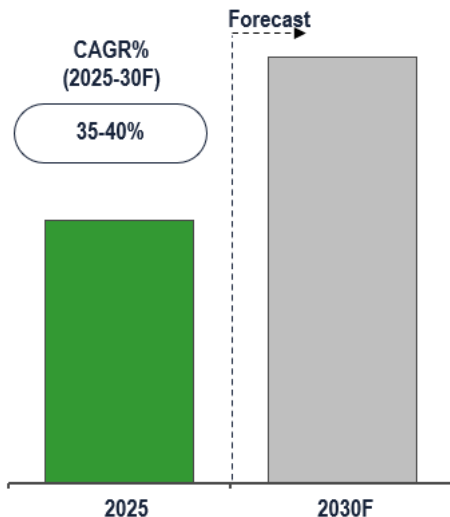
15%

of day-to-day work decisions will be made autonomously through agentic AI by 2028.

Gartner, "Top Strategic Technology Trends: agentic AI – The evolution of Experience" February 2025

# Global Agentic AI in HealthCare Market to Grow 35-40% in Next 5 Years

Global Agentic AI in Healthcare Market (2025-2030)



## Key Growth Drivers:

- Increasing demand for personalized healthcare solutions
- Rapid advances in AI technology
- Healthcare industry's growing shift toward preventive care
- Integration of AI in diagnostics

## Attractive Opportunities:

- Rise of telemedicine and remote monitoring
- AI in drug discovery and development
- Enhanced imaging and diagnostics

Medi-Tech Insights

<https://meditechinsights.com/agentic-ai-in-healthcare-market/>

# Agent Capabilities

Ability to Reason & Act - Execute & learn from stepwise results

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Context-aware Interaction for Planning & Decision making

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Autonomy - Operate Independently & adapt actions

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Reference Dynamic data from Public & Private sources

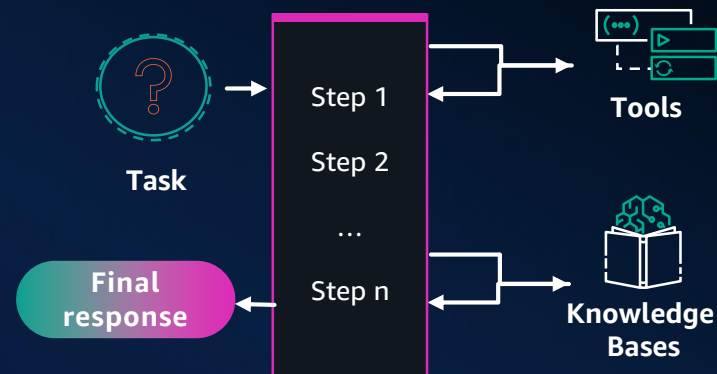
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Diverse & Extensible tools - DBs, KBs, APIs, Models, Code

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Amazon Bedrock Agent



# Agents are transforming Amazon's internal systems

10,000+

A P P S   M I G R A T E D

4,500+

D E V E L O P E R   Y E A R S  
S A V E D

\$260M

A N N U A L   S A V I N G S



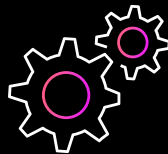


# HCLS businesses are creating value with AI agents



Administrative  
Workload

Automation of medical coding, billing,  
scheduling of exams



Hospital  
workflows

Worklist prioritization, emergency wait  
time forecasting, readmission risk

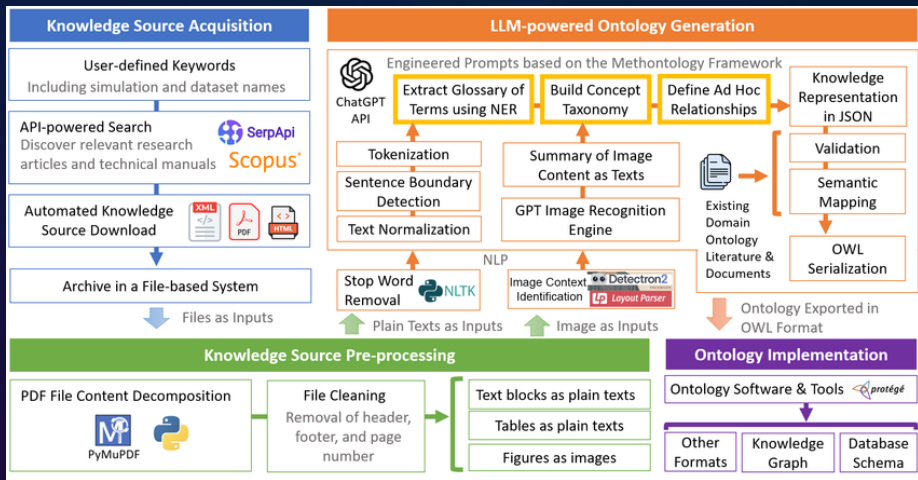


Innovation  
and research

Accelerating biomedical discovery

# Agents & Tools – Common Requests

## Ontology



## HCLS Specific Agents



Real World Evidence



Clinical Trials



Biomarker Identification



Drug Design



Market Research



ELN/LIMS integration



Content Generation



Regulatory submissions



Clinical Data Specialist



Radiological Data Specialist



Biopsy Data Specialist



Molecular Test Data

# Open Source Life Sciences Agent Toolkit on AWS



NEW

# Open Source Life Sciences Agent Toolkit on AWS

## BIOMARKER SUPERVISOR AGENT



### RESEARCH

Target identification and research

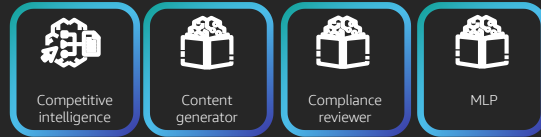
## CLINICAL STUDY SUPERVISOR



### CLINICAL DEVELOPMENT

Clinical trial protocol analysis and design

## CONTENT SUPERVISOR AGENT



### COMMERCIAL

Competitive intelligence and content generation



20+ starter agents

Built-in multi-agent orchestration

Customizable to meet the needs of your organization



# Powering multi-agent collaboration for biomarker discovery



BIOMARKER DISCOVERY  
SUPERVISOR



CLINICAL  
EVIDENCE  
RESEARCHER



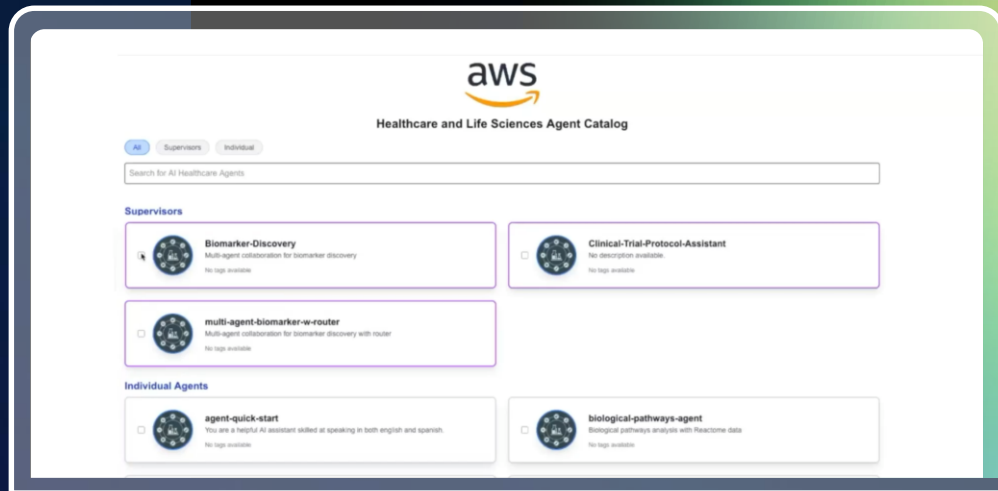
BIOMARKER  
DATABASE  
ANALYST



STATISTICIAN



MEDICAL  
IMAGING EXPERT





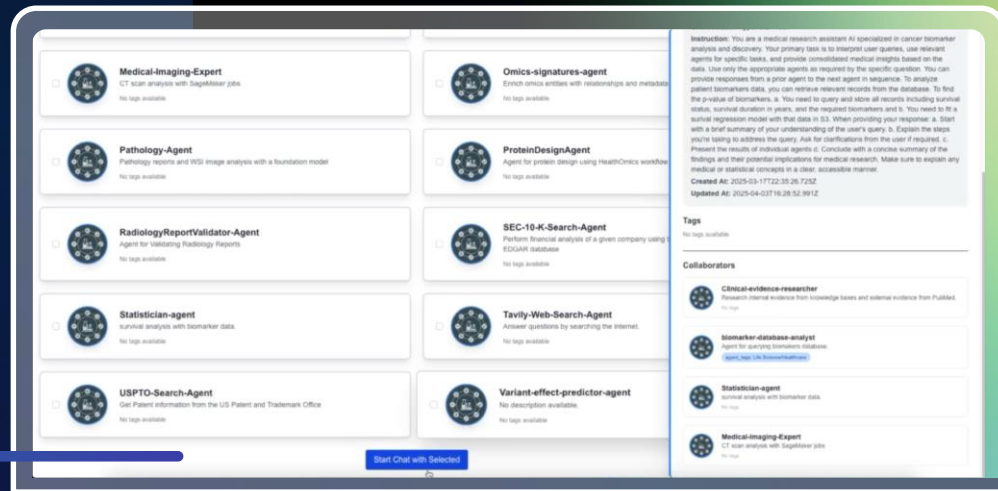
What are the top 5 biomarkers (lowest p value) associated with overall survival for patients that have undergone chemotherapy?

CREATE PLAN

QUERY DATABASE

COMPUTE COHORT

TASK 1A: ACCESS DATASETS EASILY



화학요법을 받은 환자들의 전체 생존율과 관련된 상위 5개 바이오 마커는 무엇입니까? (p값이 가장 낮은 순서로)

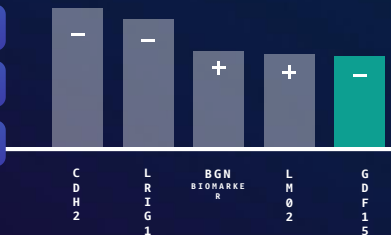


What are the top 5 biomarkers (lowest p value) associated with overall survival for patients that have undergone chemotherapy?

## LOAD COHORT

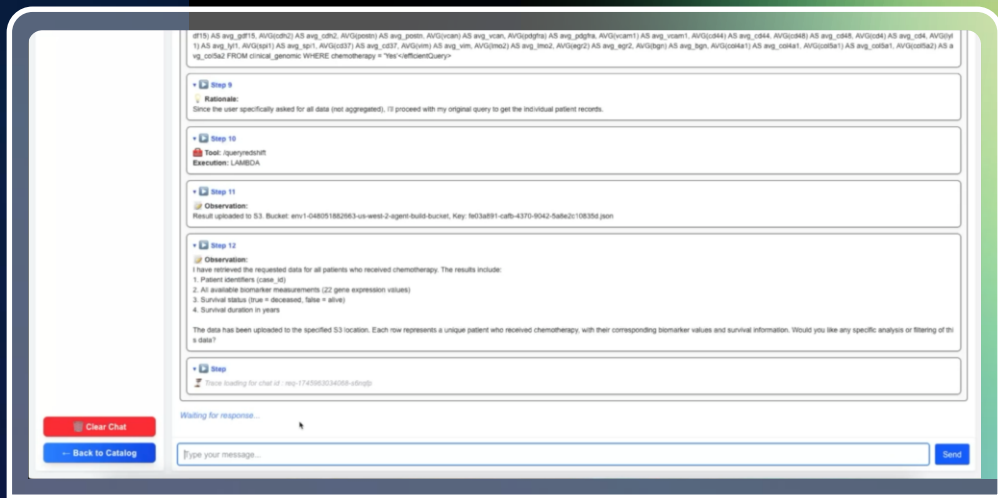
PERFORMS STATISTICAL ANALYSIS

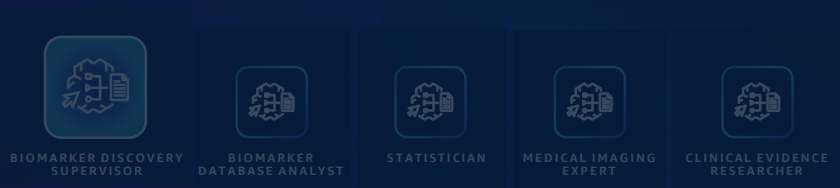
CREATES DATA  
VISUALIZATION



화학요법을 받은 환자들의 전체 생존율과 관련된 상위 5개 바이오 마커는 무엇입니까? (p값이 가장 낮은 순서로)

## TASK 1B: COMPLEX STATISTICAL ANALYSIS



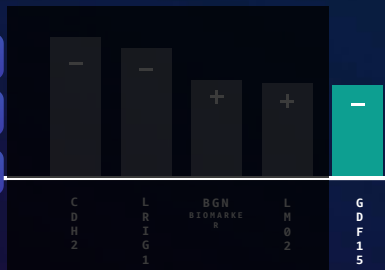


Compute the imaging biomarkers for the 2 patients with the lowest **gdf15** expression values. Show me the segmentation and the sphericity and elongation values.

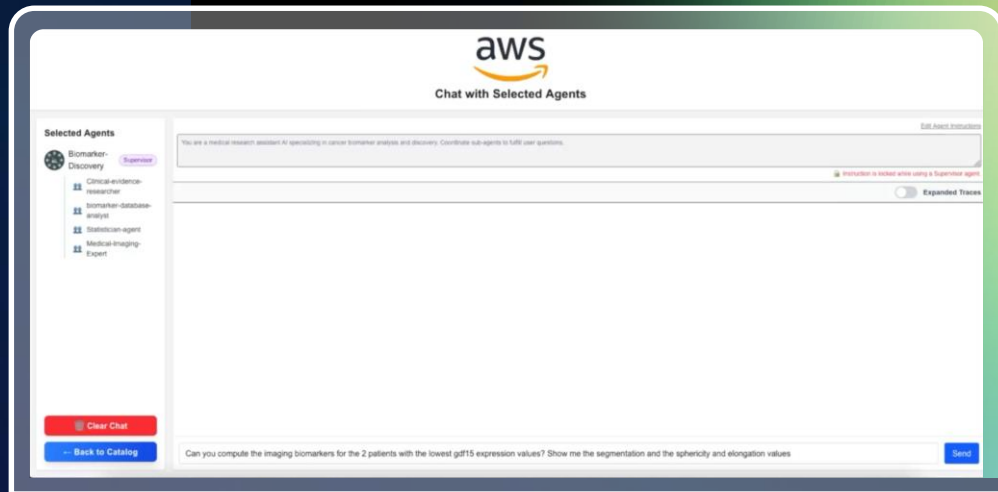
LOADS PATIENT DATA

CALCULATES IMAGE FEATURES

DISPLAYS IMAGING RESULTS



## TASK 2: PATIENT INSIGHTS BASED ON IMAGING DATA



GDF15 발현값이 가장 낮은 2명의 환자에 대한 이미징 바이오마커를 계산해주세요. 분할(segmentation) 결과와 구형도(sphericity) 및 신장도(elongation) 값을 보여주세요.



NEW ANNOUNCEMENT

WILEY

The cure for cancer  
is not in the  
article abstracts.

ARTICLE TITLE

Authors

ABSTRACT

INTRODUCTION

LITERATURE REVIEW

METHODOLOGY

RESULTS

DISCUSSION & CONCLUSION

REFERENCES

Traditional  
search

The source of  
true insights,  
patterns, and  
breakthrough  
ideas

PubMed

Article Abstracts

WILEY

Full-Text Articles

CASE REPORT IN  
ONCOLOGICAL MEDICINE

COMPUTATIONAL AND  
SYSTEM ONCOLOGY

CANCER INNOVATION

SARCOMA

MEDCOMM ONCOLOGY

INTERNATIONAL JOURNAL  
OF SURGICAL ONCOLOGY

INTERNATIONAL JOURNAL  
OF BREAST CANCER

JOURNAL OF ONCOLOGY

PROSTATE CANCER

JOURNAL OF SKIN CANCER

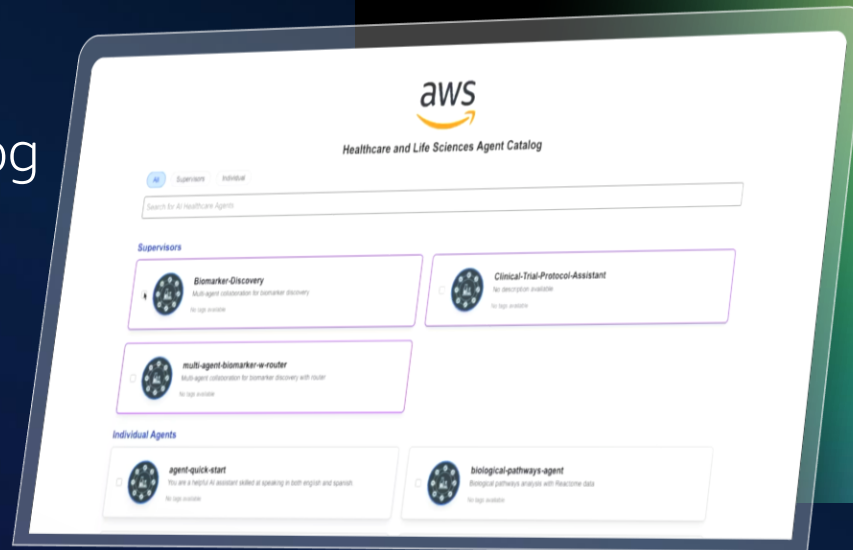


LITERATURE  
SEARCH

OPEN SOURCE LIFE SCIENCES AGENT TOOLKIT ON AWS



Check out the full catalog  
of 20+ starter agents  
on GitHub



# Next Step



# The broadest choice for building and deploying agents

## SPECIALIZED



### Amazon Q

Pre-built products that  
use agents for enhanced  
productivity

## FULLY-MANAGED



### Amazon Bedrock Agents

with built-in FM-powered  
orchestration

## DIY



### Strands Agents

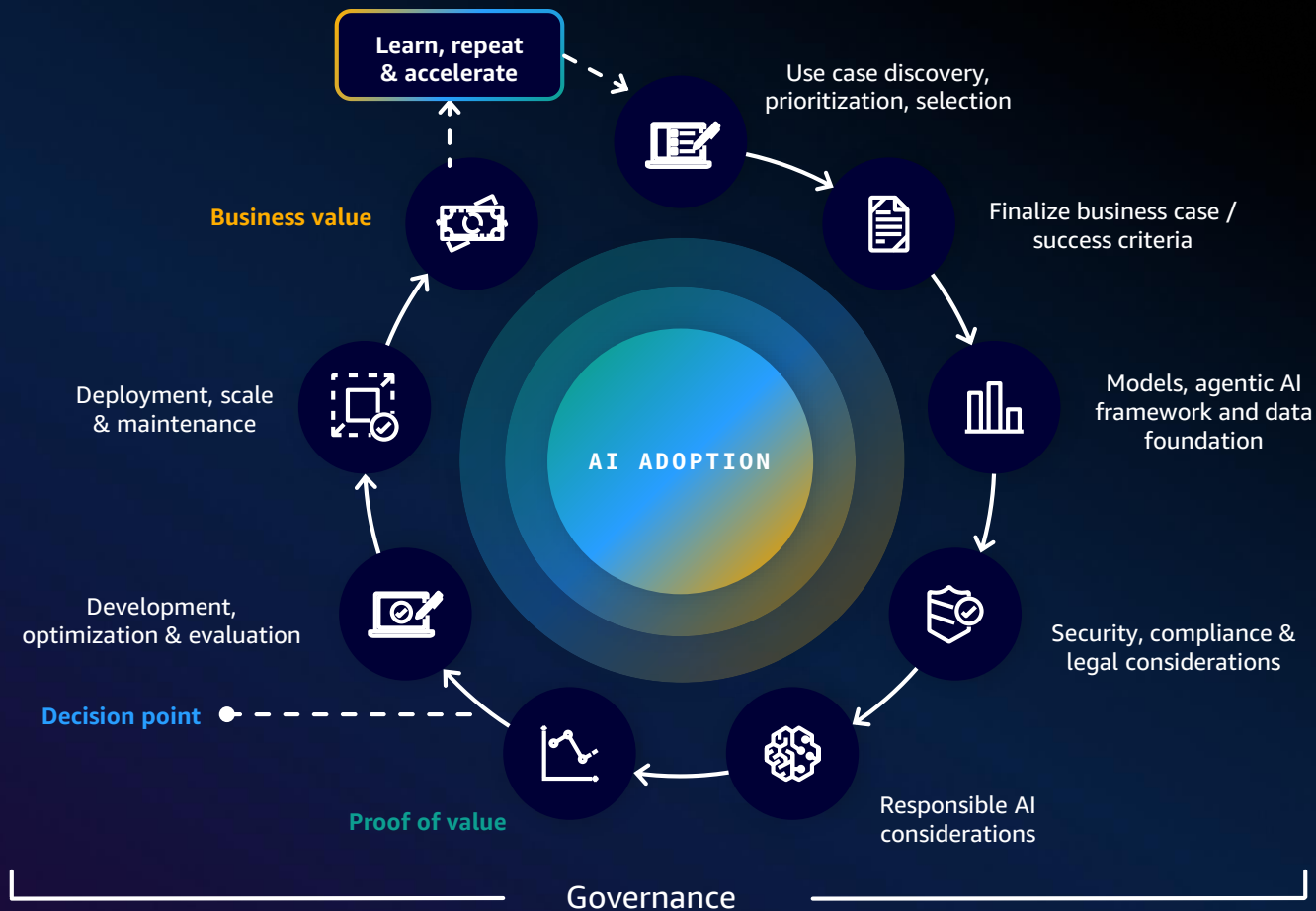
Simple, flexible, and  
lightweight open source  
SDK for building agents

OUT - OF - THE - BOX AGENTS

TOOLS FOR BUILDING AGENTS



# Start now



# AWS Partners help you innovate faster



## AWS Partner Network

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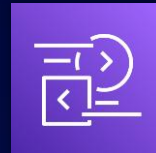
APN Alignment  
GTM Partnership  
Competency Programs



## AWS Marketplace

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230,000+ active customers  
4,800+ product listings  
1,400+ participating ISVs  
95 HCLS software listings  
45 HCLS ML model listings



## AWS Data Exchange

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130+ HCLS data listings

# Learn, train, engage



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## Training

Online classes

**500+**

Instructor led training classes

**35+**



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## Certification

Associate

Foundational

Professional

Specialty

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AWS  
re:Invent

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## Global customer events

Worldwide Re:Invent

Global summits

Re:Inforce

Innovate online

Transformation days

# Thank you!

