AGENT HARNESS
IN AGENT FRAMEWORK

AgentCamp 2026, Microsoft NERD, Cambridge MA

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AGENDA

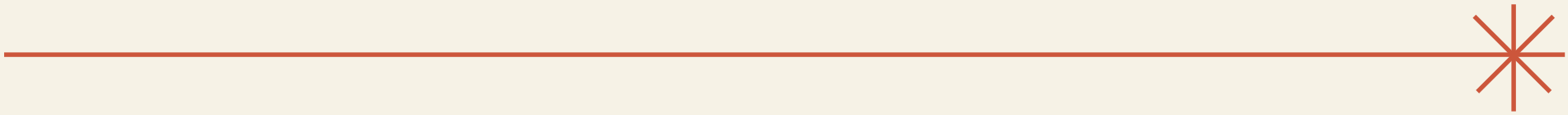
- Past 2 years
- Quick Intro to Agent Framework
- What is an Agent Harness?
- Resources

PAST 2 YEARS

HOW HAVE THINGS CHANGED FOR YOU IN THE PAST 2 YEARS?

Just for context this is June 2026 … so what were you doing in June 2024?

Simple RAG chatbot using Semantic Kernel and GPT-4o



2024

GEN AI BECAME PRACTICAL

PROMPT ENGINEERING

- Multimodal models arrived
- RAG became mainstream
- Function calling matured
- Long context windows expanded
- Coding assistants took off
- Structured outputs started to improve
- Agent concepts started to emerge
- Enterprises launched pilots
- First reasoning model appeared
- MCP introduced

2025

YEAR OF THE AGENTS

CONTEXT ENGINEERING

- Reasoning models matured
- MCP standardized tool integration
- Agent frameworks started to mature
- Agentic architectures started to mature
- Workflows and multistep patterns became more popular
- RAG evolved to Agentic RAG
- Enterprise AI moved from pilots to production
- Coding agents became useful
- Models got **really** good at writing code
- Agent skills introduced

2026

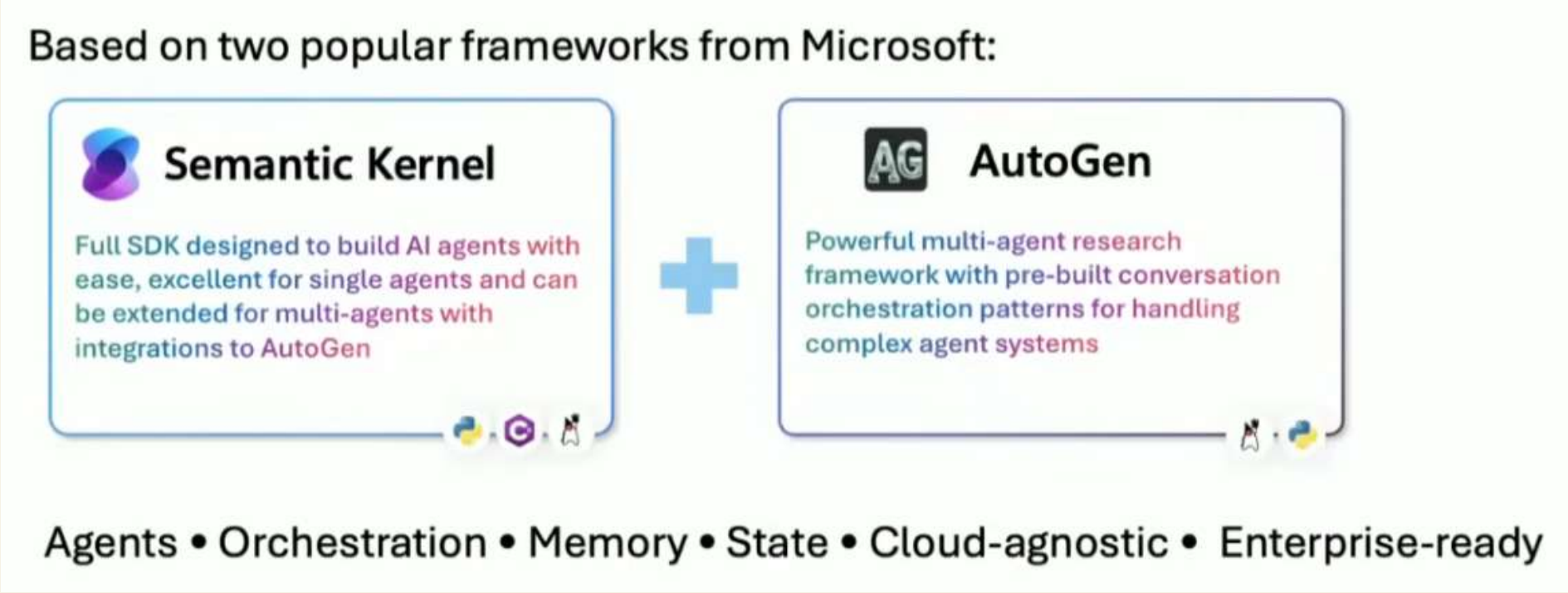
AGENT OPERATIONS

- Open Claw became popular really fast
- Autonomous Agent concerns highlighted
- Coding Agents replaced Coding Assistants
- Agent Skills gained popularity
- Agent Harness concept solidified
- Human orchestration
- Agent security emerging as a major disipline

HARNESS ENGINEERING

AGENT FRAMEWORK

MICROSOFT AGENT FRAMEWORK



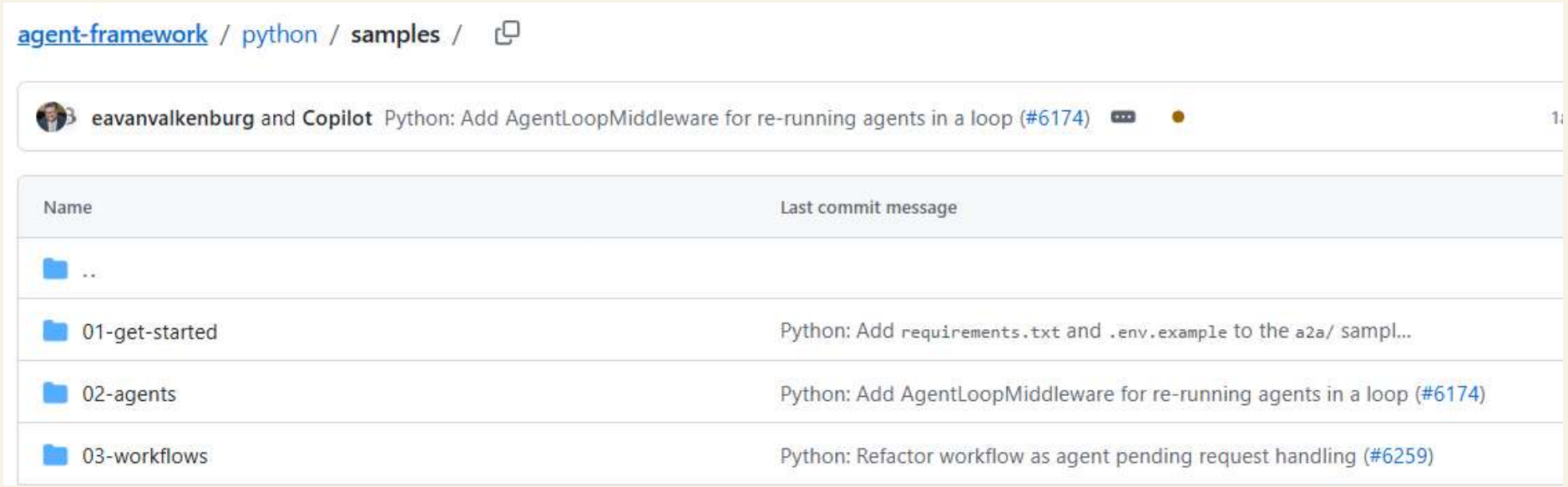
AGENT FRAMEWORK CONCEPTS

- **Chat Clients** – access to LLM providers
- **Agents** – core building block, combines a model, instructions, tools
- **Tools / function calling** – functions agents can invoke to interact with external systems
- **Memory / context providers** – persistent state and context enhancing providers
- **Multi-agent orchestration** – patterns for coordinating agents
- **Workflows** – structured execution of multi-step processes
- **Provider integrations** – multiple options for model providers
- **Data integrations** – connectors to services like Azure AI Search, Cosmos DB, Redis, etc.
- **Observability** – Logging, tracing, monitoring and diagnostics
- **Agent Harness** – execution layer that connects model reasoning to enable actions, workflows and tool usage. ***"connects the brain with hands to do things"***

LET'S LOOK AT SOME DEMOS

These are in the source code:

https://github.com/microsoft/agent-framework/tree/main/python/samples



AGENT HARNESS

CHATBOT WITH TOOLS

User:

Compare these contracts

- Single interaction
- Model is responding to current prompt

Flow:

1. Prompt
2. Retrieve docs
3. LLM Compares
4. Returns answer

AGENT HARNESS

User:

Compare these contracts

- Potentially dozens of tool invocations
- Multiple states
- Long-running workflow
- The harness coordinates everything

Flow

1. Receive contract
2. Create review task
3. Analyze clauses
4. Call retrieve tools
5. Call comparison skill
6. Generate findings
7. Validate findings
8. Request approval
9. Generate report

WHAT IS AN AGENT HARNESS?

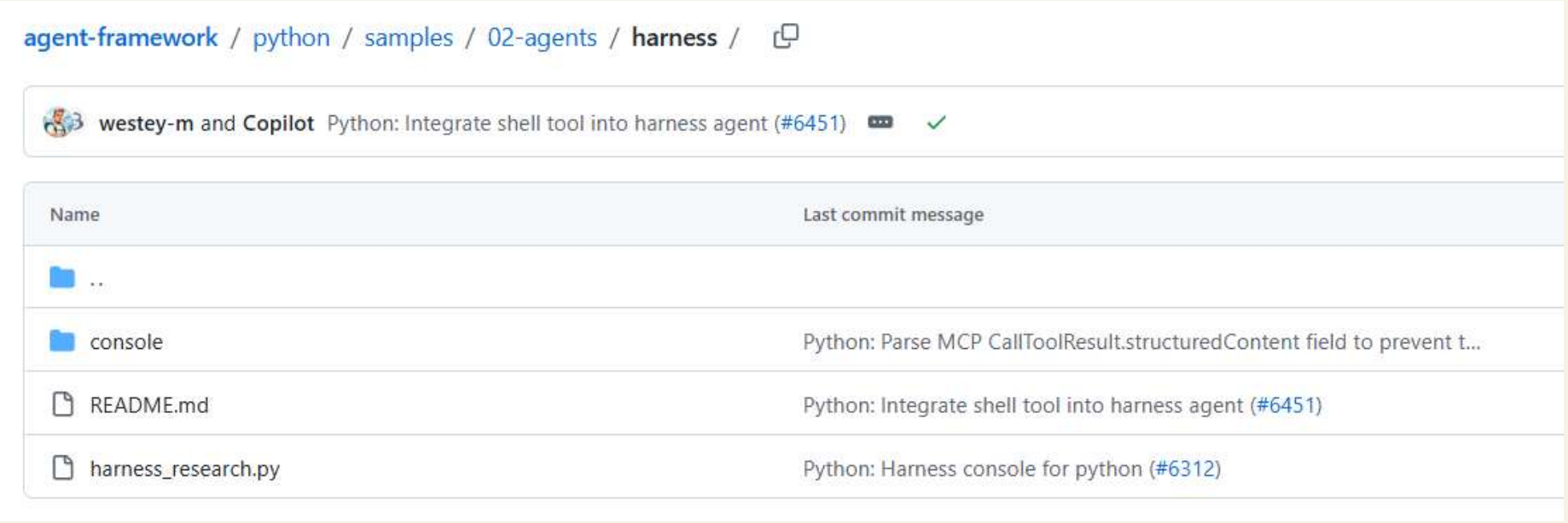
Execution environment for agents

- Context management
- Skills and Tools
- Memory and State
- Planning
- Approvals
- Lifecycle hooks
- Observability
- Execution Loop

LET'S LOOK AT A DEMO

This is in the source code:

https://github.com/microsoft/agent-framework/tree/main/python/samples/02-agents/harness



RESOURCES

CODE

Agent Framework Source Code Repo

- https://github.com/microsoft/agent-framework

Harness samples

Python:

- https://github.com/microsoft/agent-framework/tree/main/python/samples/02-agents/harnes

C#:

- https://github.com/microsoft/agent-framework/tree/main/dotnet/samples/02-agents/Harness

CODE

Agentcamp Workshop Agent Framework

Original:

- https://github.com/GlobalAICommunity/agentcamp-workshop-agent-framework

Fork:

- https://github.com/JasonHaley/agentcamp-workshop-agent-framework

Chainlit Contract Review Agent

- https://github.com/JasonHaley/chainlit-contract-review-agent

RESOURCES

Microsoft Build Session "Build26-BRK243-claw-and-agent-harness-in-microsoft-foundry“

- Recording: https://build.microsoft.com/en-US/sessions/BRK243?source=sessions
- GitHub: https://github.com/microsoft/Build26-BRK243-claw-and-agent-harness-in-microsoft-foundry/tree/main

Article: Agent Harness Explained: Build Production-Ready AI Agents with Microsoft Agent Framework

- https://dev.to/monuminu/agent-harness-explained-build-production-ready-ai-agents-with-microsoft-agent-framework-666