

— ZooKeeper, Rancher, AI (Harness) [Z-Image Edition]



- : IT
- 1. ZooKeeper: " "
- ◦ ZooKeeper
- 2. Rancher: " "
- ◦ vs :
- ◦ Rancher
- 3. , ?
- 4. AI : OpenAI Harness Engineering
- ◦ AI
- ◦ Harness
- ◦
- 5. " ?" —
- :
- :



IT ?
, AI .

: IT



ZooKeeper
Rancher
2026, OpenAI Harness ()

?

1. ZooKeeper: " "



2010, (Yahoo) .

Apache ZooKeeper. :

"ZooKeeper: Because Coordinating Distributed Systems is a Zoo"
(:)

ZooKeeper

ZooKeeper . :

- (, Leader Election)
- ()
- " " ()
- ()

Hadoop, Kafka, HBase... ZooKeeper . .



: . , , , . ZooKeeper.

2. Rancher: " "



ZooKeeper , **Rancher** . .

2012, Randy Bias :

" (Pets) (Cattle) ."

VS :

	(Pets)	(Cattle)
	(web-server-master, db-primary...)	(node-001, node-002...)
		0

Rancher. Rancher Labs "Cattle". Kubernetes SUSE Rancher .

Rancher

SUSE Rancher Kubernetes :

- **Kubernetes**
- AWS EKS, Azure AKS, Google GKE
- 2025 AI Assistant

Kubernetes Controller Manager " " . "Nginx 3 " , . . .

✔
: Cattle .

3. , ?



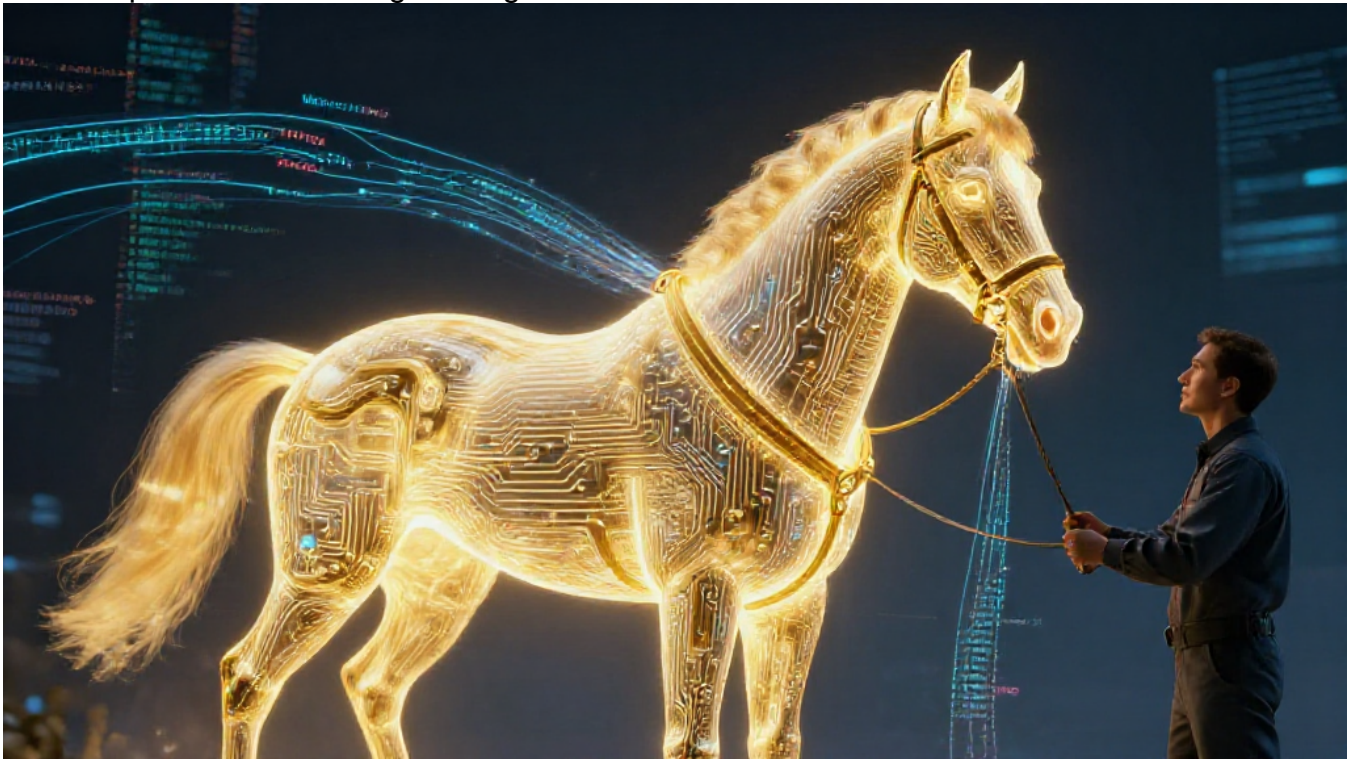
, ... ?

Apache .

- **Hadoop:** ()
- **Hive:** ()
- **Pig:** ()
- **Flink:** ()
- **Kafka:** (...)
- **ZooKeeper:**

Hadoop , . , , — , .

4. AI : OpenAI Harness Engineering



AI

2022 ChatGPT, GPT-4, Claude... AI . . .

(Vibe Coding). " AI ." , .

MCP(Model Context Protocol) . AI . . , DB .

(Skills) CLI. . .

2026 2, OpenAI : **Harness Engineering.**

Harness

Harness () (). . . , .

OpenAI Harness Engineering :

AI(Codex) ().

OpenAI Codex :

- , , Cl , , (Observability)
- 100 AI
- 10

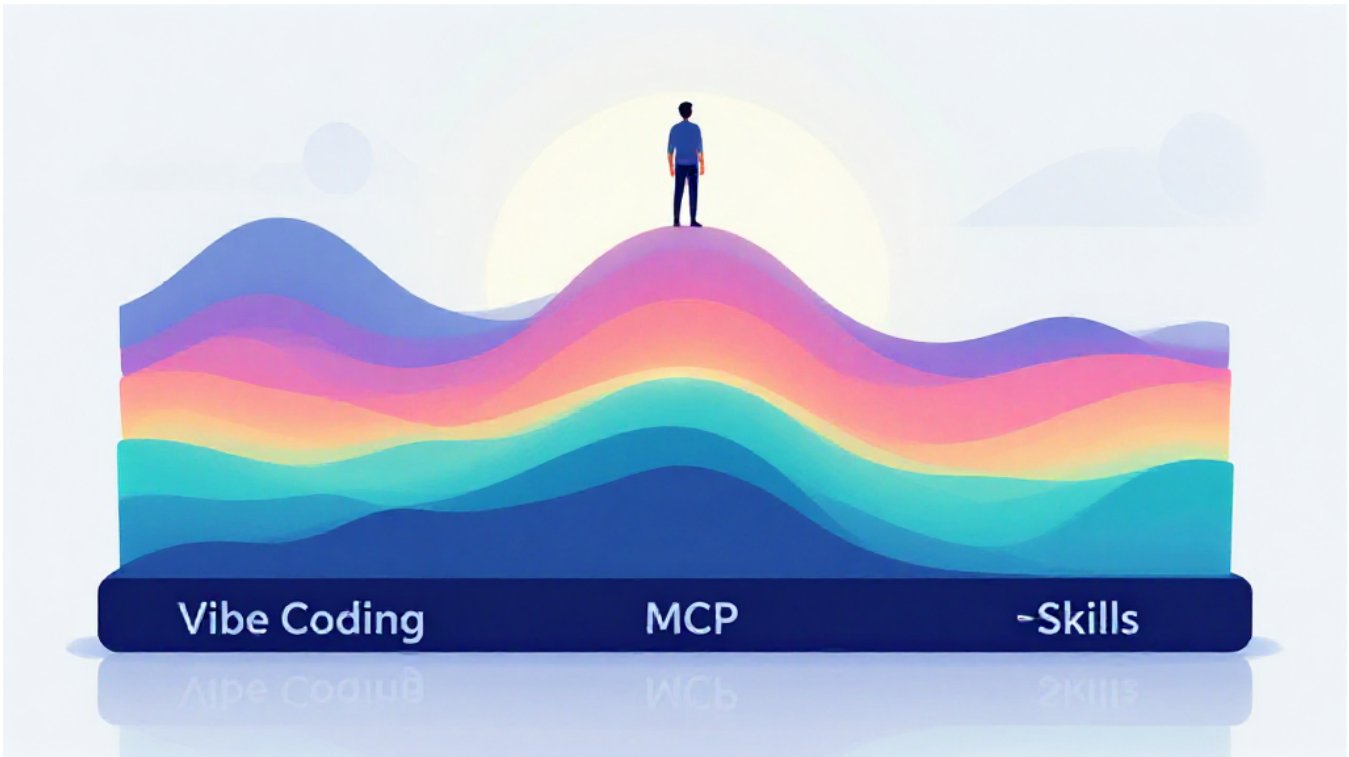
	Harness Engineering

	AI

Context Engineering: AI 1,000 " " . . , AI .

Harness AI .

5. " ?" —



- —" "
- **MCP** — AI
- **/CLI** —
- **Harness** — ...?

. MCP AI . CLI . Harness Engineering .

" " , " .

ZooKeeper , Rancher "Pets Cattle" , " " . — , .

Harness Engineering .

:



- ZooKeeper: . . .
- Rancher: . . .
- Harness: AI . . .

AI .

// .

Harness Engineering — AI . . .

? , ?



2026 3 . . .

- [Apache ZooKeeper](#) — "Because Coordinating Distributed Systems is a Zoo"
- [A Journey from Cattle to Kubernetes — SUSE Communities](#)
- [The History of Pets vs Cattle — Cloudscaling](#)
- [Harness Engineering: leveraging Codex in an agent-first world — OpenAI](#)
- [OpenAI Introduces Harness Engineering — InfoQ](#)
- [Harness Engineering — Martin Fowler](#)