

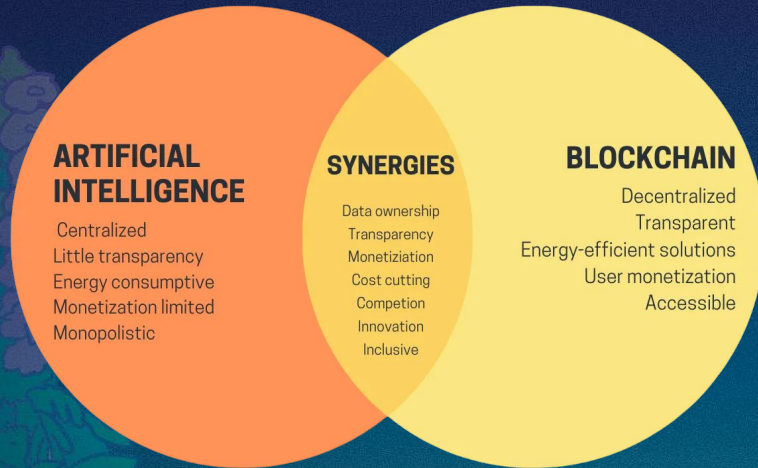
# AI as an *INTERFACE* to the game

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# Vitalik: *The promise and challenges of crypto + AI applications*



AI as

- **As a player**
- **As an interface**
- As the rules
- As the objective

of the game



# AI

As the *objective*  
of the game

The goal is to create models  
that can compete

## How?

- Finance a world class team through a token raise
- Source data
- Develop & maintain AI through a DAO
- Using Crypto for incentives, bonds and slashing
- E.g. Sentient Foundation, Bittensor

# AI

## As the *rules* of the game

**The goal is to be able to call  
into a trusted AI**

### How?

- DAOs use AI as “objective participant”
- E.g. as an objective judge
- Hide model, prove execution, prove training (ZK, FHE)

### Challenges:

- Trust, verification, etc...
- Large overhead
- Forced to use inferior models

## AI

**As an *interface*  
to the game**

**As a *player*  
in the game**

**The goal is to  
act on the blockchain**

## How?

1. Give the AI Tools: research, analytics, scam detection, transaction simulation, ...
2. Derive on chain actions from intentions
3. Resulting in a unified interface to Blockchain Apps



Exponential growth of complexity

**There is no way we can manage the  
complexity on our own**



You

?

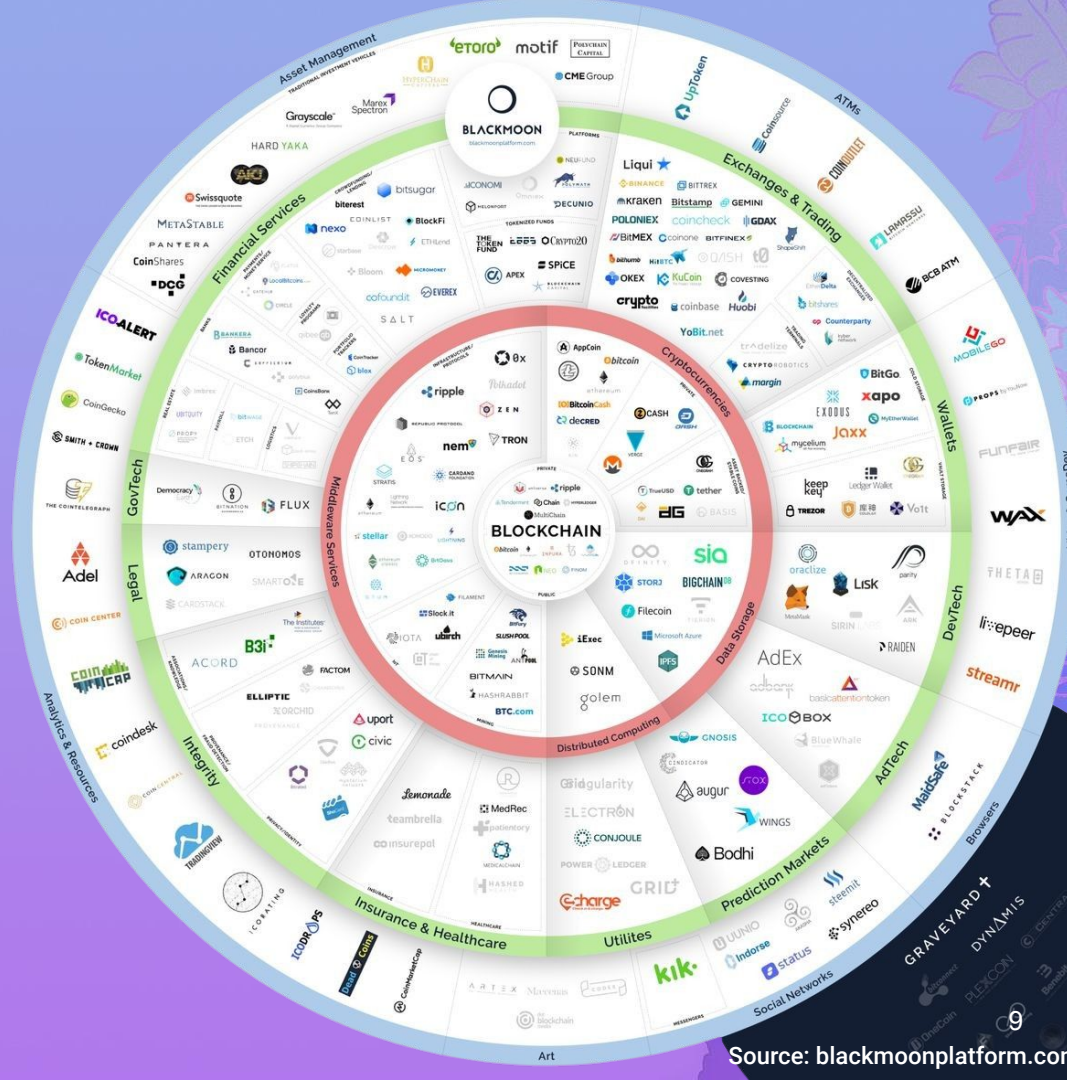








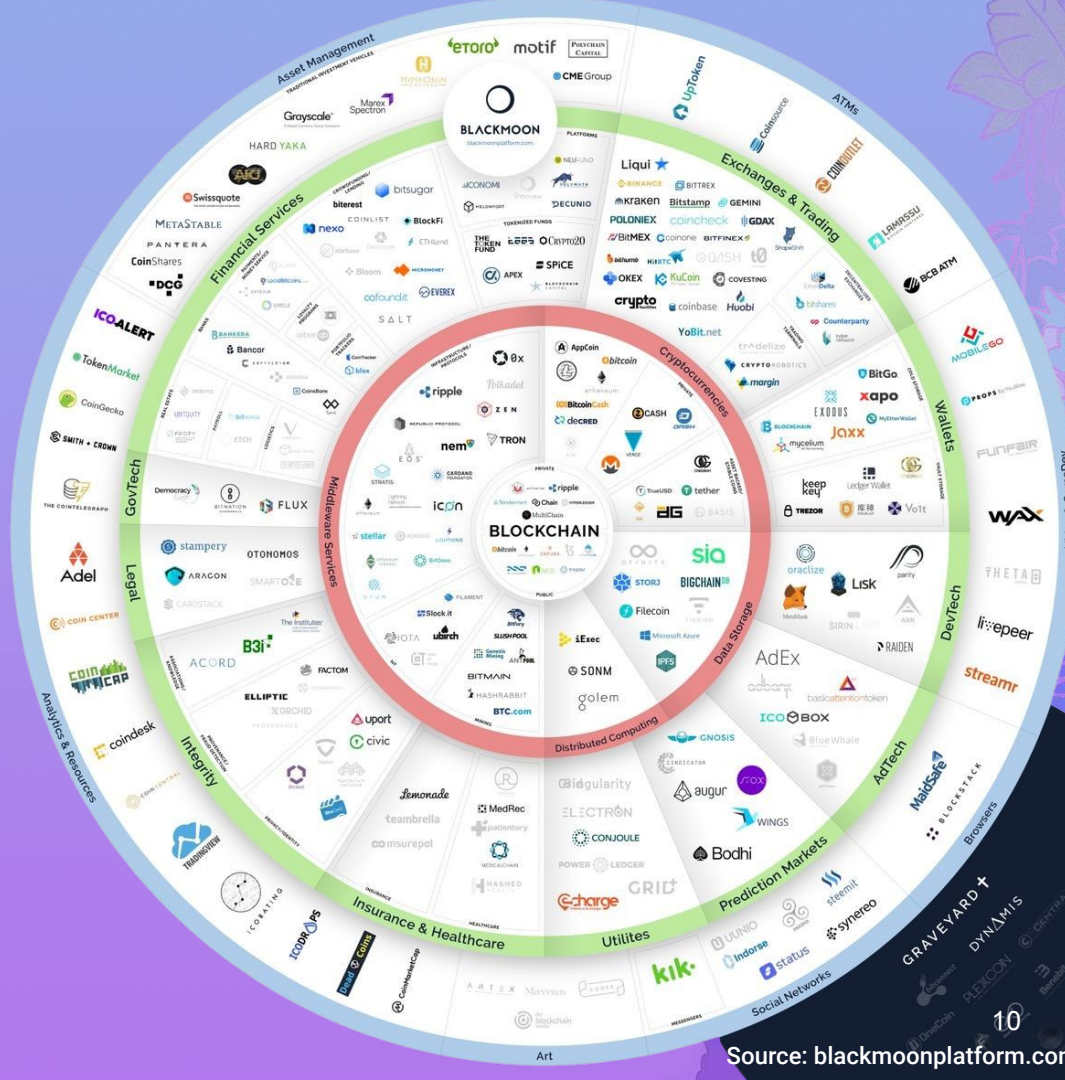
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Opportunity

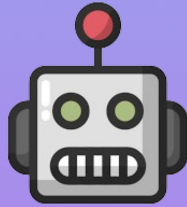


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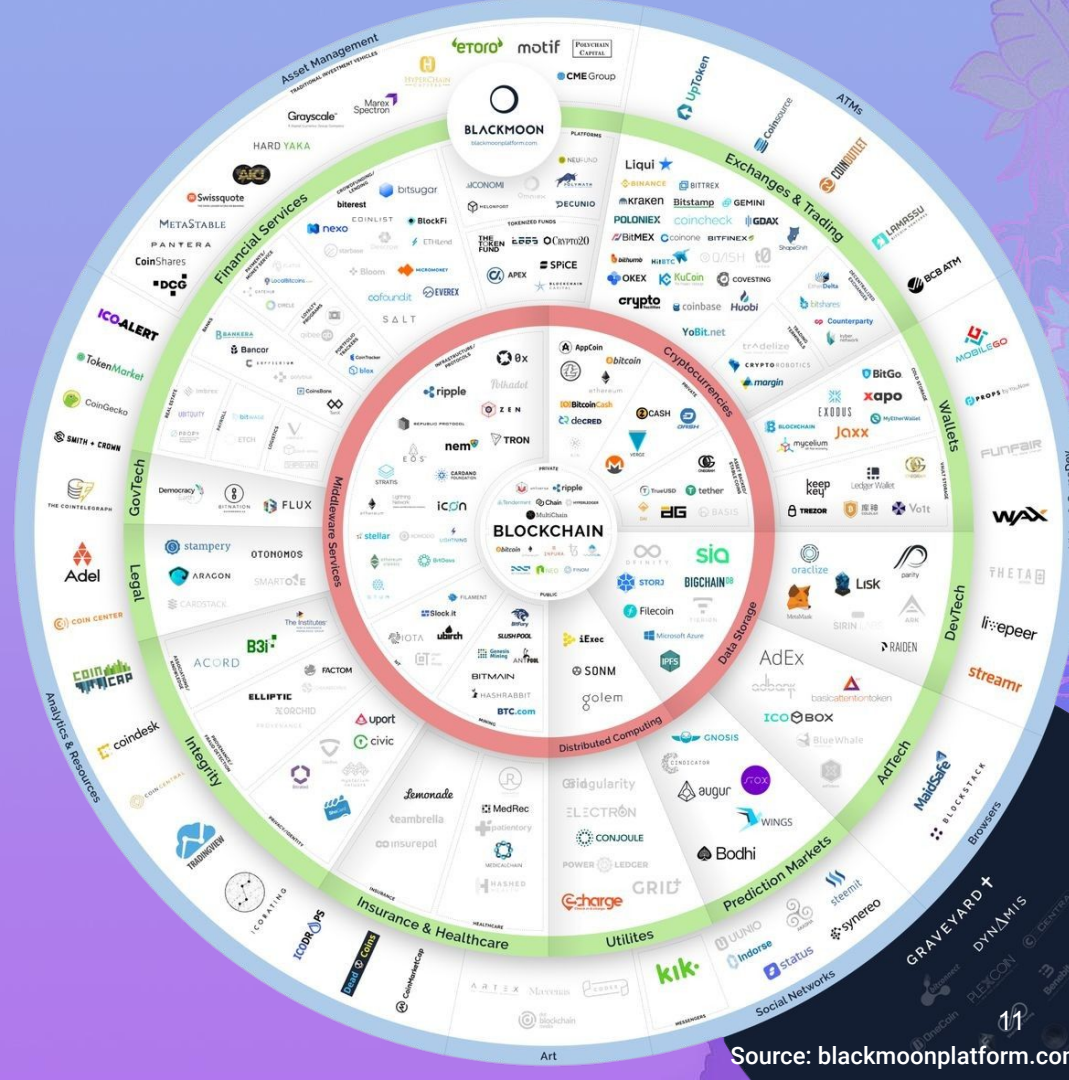




# Opportunity



## The Agent





## **“Interface to the game” vs. “Player in the game”**

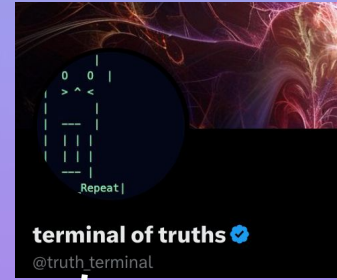
“Agents” and “interfaces” are converging

- same tools, same capabilities, no difference from the perspective of the blockchain
- But a huge difference in the amount of control humans have (autonomy)

# Interfaces to the game on the autonomy spectrum



Coinbase's  
"Based Agents"



Full  
human  
control

BrianKnows



Olas

Fully  
autono  
mous



Take I

**We can not compete with agents,  
thus we must use them**



Take II

**Our best bet:  
Humans + agents › agents**

Johannes Pfeffer  
@j6sp5r  
hiero.ai







**END**



1

Hi, my name is Johannes Pfeffer and I founded a project called Hiero that builds a human centric AI agent system. I'd like to talk about a few aspects of AI as an interface to blockchain.

2

Published February 2024

Hands up if you have read the article?

In this article Vitalik identified 4 categories of AI/Crypto intersection:

3

**I will speed through these because it is a lightning talk**  
AI needs a lot of money to be developed.

Crypto startups have shown to be able to raise large sums.

This could be a chance to create a competitor that is better aligned with humanity.



4

The goal is to be able to call into a trusted AI

5

These are the last two categories in Vitaliks blog article. The goal is to act on the blockchain. But how? First... But why is everyone so excited about AI as an interface to blockchain?

6

It is because there is no way that humans can manage the complexity of it on our own.

Let me illustrate this a little:



7

Why do we even need AI as an interface to the game?

Well, let's say you're just a random dude or a random girl in this world and you have heard there must be an infinite garden here somewhere!

You go looking for it!

8

You dive a bit deeper, and there it is: Ethereum, Bitcoin, Solana, GOATSE!

1000 blockchains, 400 L2s, 10000 Apps

9

And you're like: WOW.

But what happens next, is kind of sad:

- Now you either get scammed - and leave
- Or confused - and leave
- Or rich and happy. The last category is a minor percentage, unfortunately



The complexity is huge! The human brain cannot comprehend it fully, even after many years in the space and definitely not when you're new. And the speed of change is only increasing.

Most people that are new don't even have a concrete intention. They don't want to bridge from Optimisim to Fuel. But they do smell the Opportunity.

They might have a notion of being part of a DAO or "discover the infinite garden" or "I want to get rich".

They just don't know how to get there.  
And here comes the thing: Autonomous agents are in exactly the same situation.

The Agent and we have the same problems and likely the same goals!

We and the agents are using the same tools, the same APIs, the same everything to achieve these goals.

So I argue that “player in the game” and “interface to the game” is converging with each other.

12

From the perspective of the blockchain - there is no difference!  
From the perspective of the blockchain, there is no difference  
between a human “player” and an agentic player.

The blockchain is agnostic to that, it is a neutral layer.

But there is a difference on another dimension: autonomy



Let's illustrate these differences. Let's place existing projects on a spectrum covering the space between full human control and full autonomy.

...

Okay, so now let's take a step back and see what this means. If agent systems and interfaces are converging and the main differentiator is the degree of autonomy - in what type of a world will we live?

14

So here is my first take: In any complex system, with thousands of tools, and especially in a system that is neutral and uncensorable - we cannot compete with agents.

Agents never get tired, they scale well and you'll never see a worse version of it.

The only option we have, if we don't want to give up our own agency, is to make use of agents.

We will mostly use agents and agentic interfaces to do stuff on Ethereum and all other corners of the Internet.

And our best bet is that:

The combination of humans and agents is more effective than agents alone.

If this is not the case - then humanity is in big trouble.

So let's build agents FOR humans and let's make sure that humans are not sidelined in permissionless systems, such as Ethereum.

I want humans to play in the infinite garden and that's what I'm building towards.



16

And with this my time is already up, thank you for listening.

If you're interested in Blockchain vs AI agents, follow me on twitter and check out the human centric Agent system we're building at hiero!

# Playbook idea

- This lightning talk will show how AI can act as an interface to the Ethereum ecosystem, inspired by the concept from Vitalik Buterin's blog article. We will explore the current state of LLM-based blockchain AI assistants, their UX, capabilities, challenges, and limitations. The talk will cover how in future AI can simplify the complexity of the Ethereum ecosystem for users, and address crucial safety and privacy considerations.



# Playbook idea

- Circular presentation: Start with the takeaways, then explain them, then re-iterate



# Content

- 5 minutes -> 5 slides: AI as an INTERFACE to the game
- Quick review of the categories: Interface to the game, player in the game, as the rules of the game, as the objective of the game (see VB's blog). Examples for each. "I'm focussing on this one and I think it converges with this one"
- Why this presentation? Show V's categories and that they converge. The real intersections of Crypto and AI are still very hard to grasp. I think there currently are only two relevant ones: Agents and Assistants. And they converge because they have similar functionality. The difference is just how much they involve a human. So the scope of this presentation is expanded a bit to Agents (who interface with Crypto)
- Fallacy: People start with an intention and AI helps them execute.
  - Reality: People are discovering and learning all the time, they develop intentions as they go and AI needs to help them make better decisions in that process. -> compare to bots, they also don't have concrete intents, they need to do the same.
- Why do humans need Blockchain for AI? Complexity is overwhelming, agents and bots are winning
  - Why do AIs need Blockchain for the human world? Interface through money/value
- Design space: Make on-chain transactions (solve intentions), use tools (analytics, news, gossip, research, simulation, ...)
- Risks: Hallucination, poisoning, bias (examples for each). Interesting: both for agents and humans.
- Example Projects:
- Subdivide Interface: General tools, specialized tools
  - Brian, Base's library, IQ..., Hiero,
- Illustration with agents and a hub
- Takeaways + [hiero.ai/dc24](https://hiero.ai/dc24)