

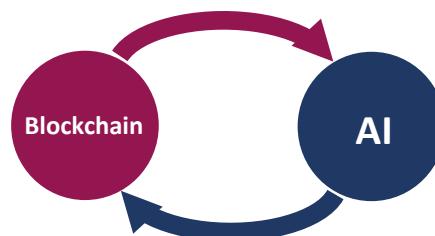
# Towards On-Chain AI

Deli Zhao

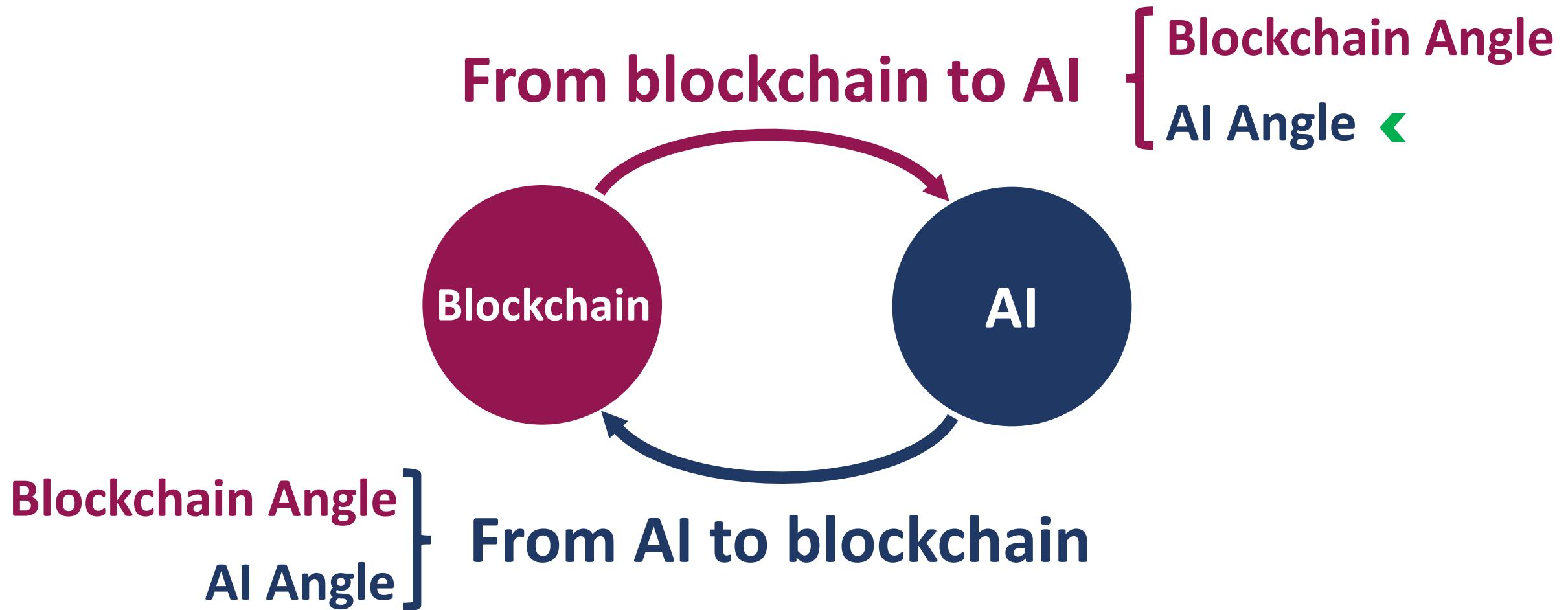
[zhaodeli@gmail.com](mailto:zhaodeli@gmail.com)

[zhaodeli.github.io](https://zhaodeli.github.io)

07/2023



# Laterality



# Issues of Current AI

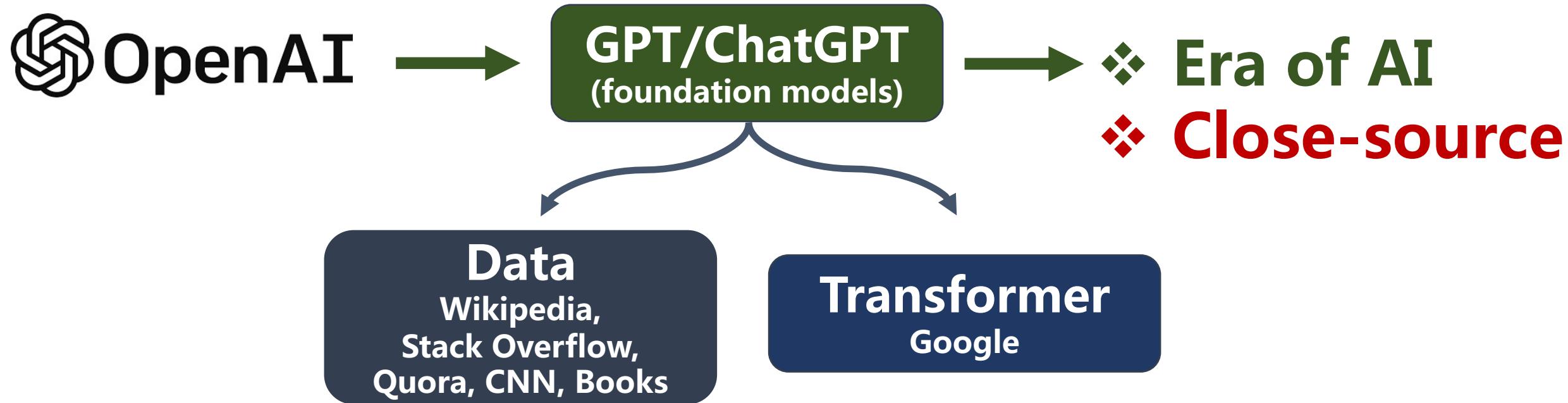
# Isolation of Algorithm Inheritance



## Issue 1:

- The inheritance of basic **algorithms** (Transformer), foundation **models** (GPT), **products** (ChatGPT) is isolated for current AI, resulting in absence of commercial value for foundation algorithms/models.
- Patents fail to foster sound development of AI

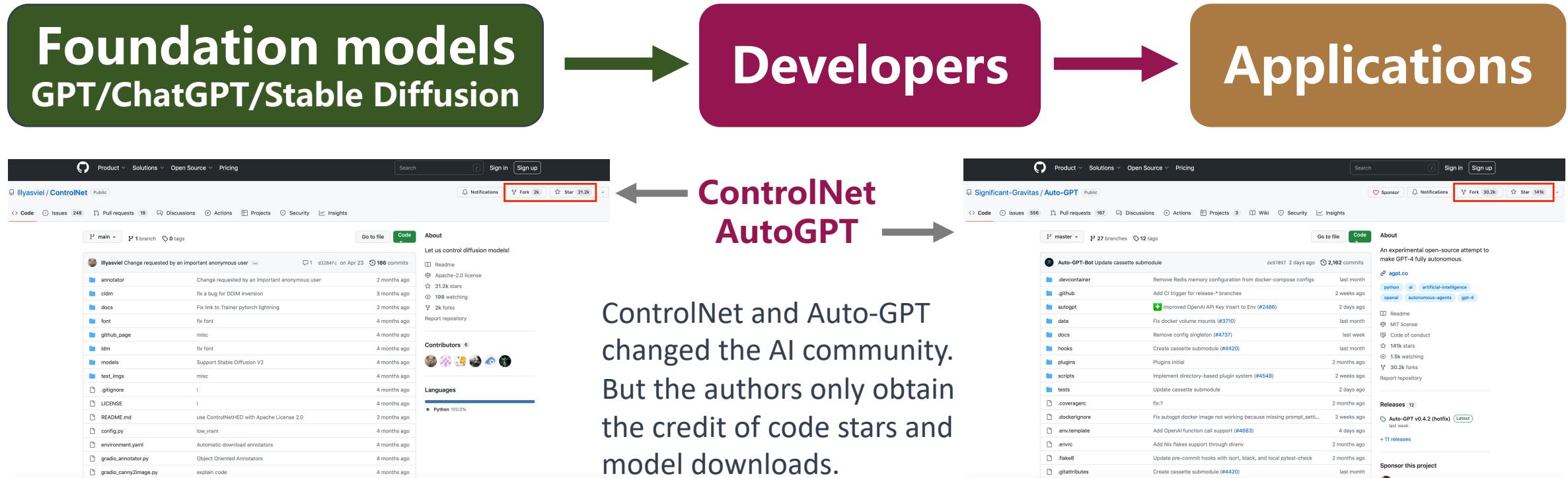
# Ignorance of Data Property



## Issue 2:

- The data property is ignored for current AI, resulting in absence of commercial value for digital assets (e.g. data).

# Absence of Developer Reward



ControlNet and Auto-GPT changed the AI community. But the authors only obtain the credit of code stars and model downloads.

## Issue 3:

- Developers' contribution in open-source communities and applications is not well recognized for current AI, resulting in absence of commercial value for developers.

# Partial Monetization

## Very weakly Monetized

Scientist/professor/researcher/freelancer

- **Algorithm & Theory**  
e.g. Transformer, diffusion model
- Open-Source
- Data

## Monetized

Entrepreneur

Foundation models  
e.g. GPT, Stable diffusion

Products  
ChatGPT, Midjourney

- **Algorithm & Theory**  
e.g. Transformer, diffusion model
- Open-Source
- Data

- **Patent**
- **Copyright**

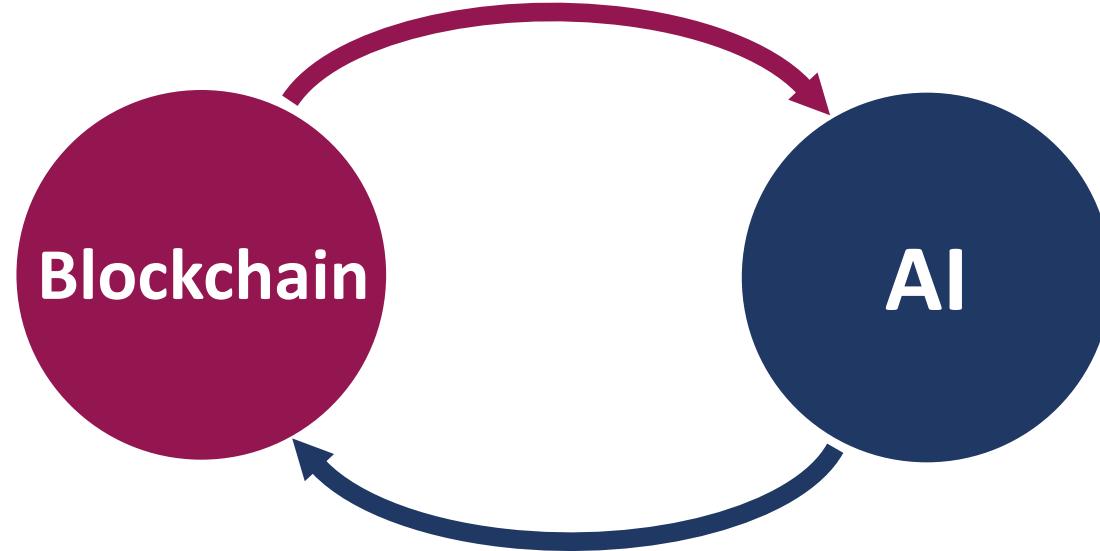
**Fail for AI**

**New mechanism for intellectual properties and digital asserts is needed to conform to the new era of AI, bringing AI to be the world-wide public infrastructure.**

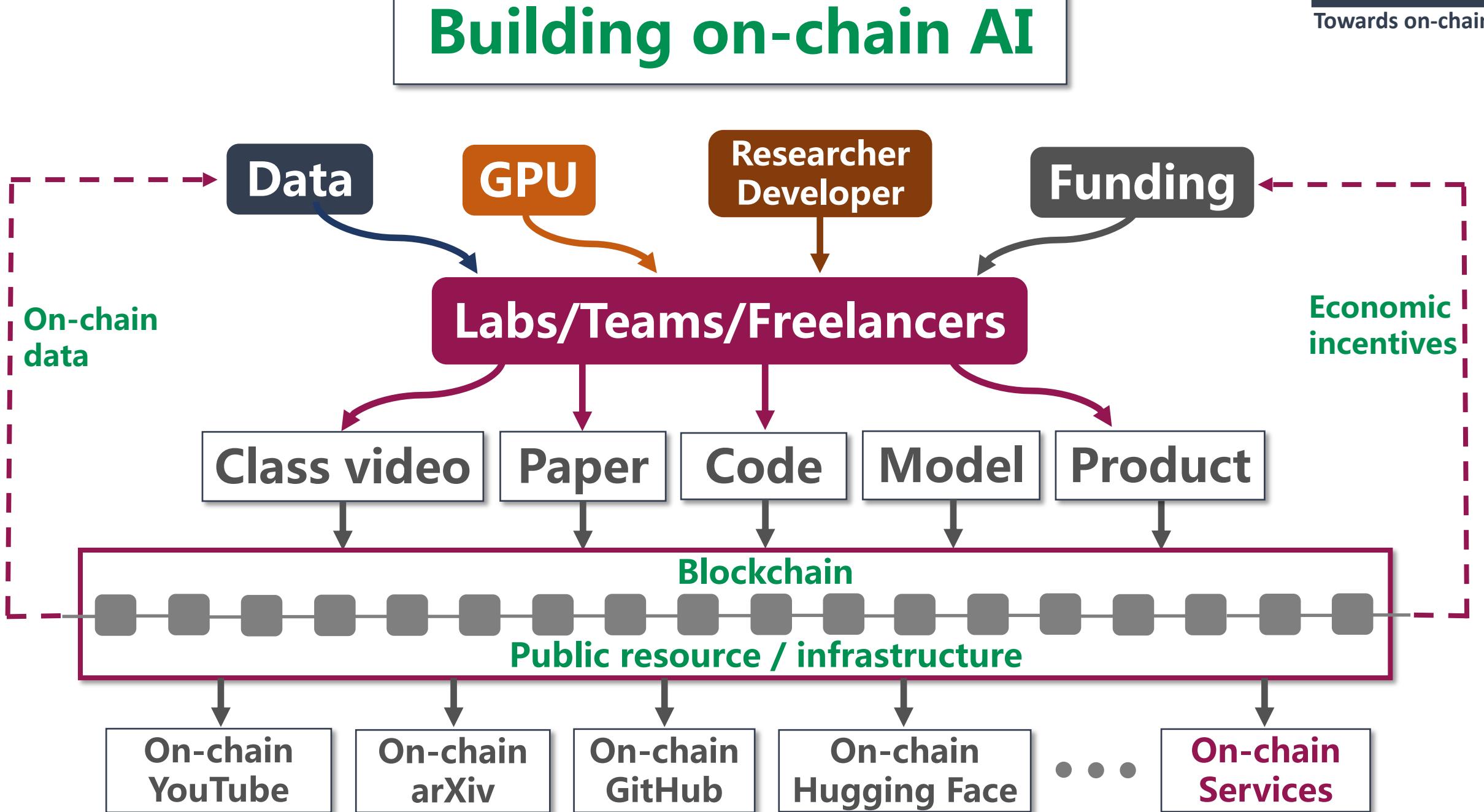
# Solution for Current AI

# Duality

Production relations      Blockchain      Productive forces



New infrastructure pertaining to production relations is needed for AI



# Benefit

## Resource

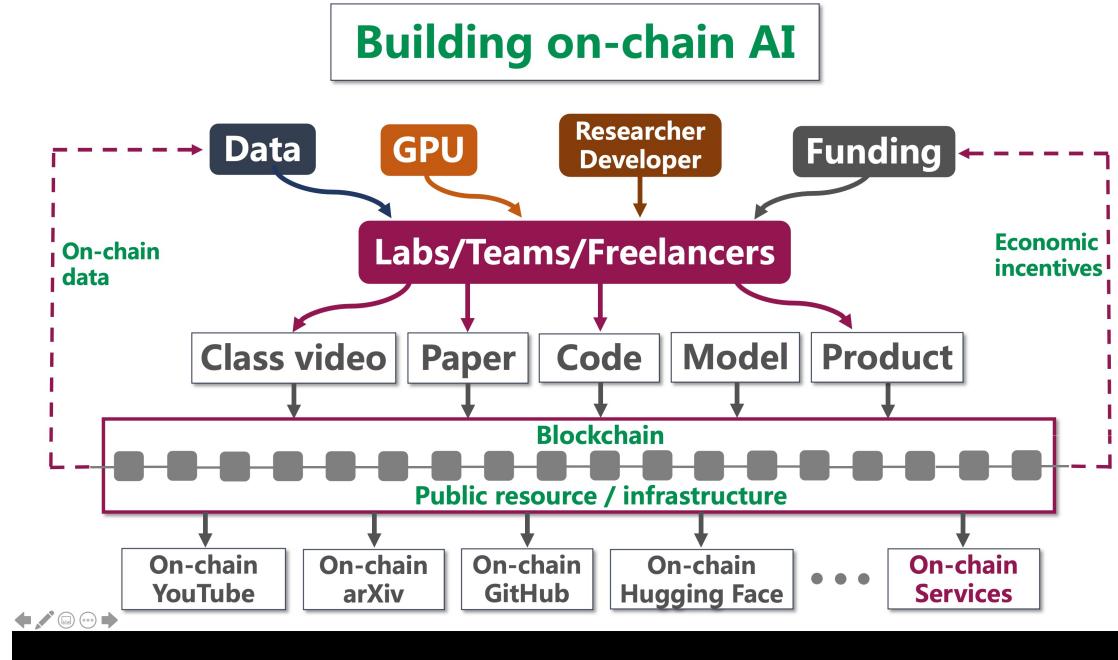
- **Monetize data**
- Monetize compute (GPU)

## Intellectual Properties & Impact

- **Monetize papers**
- **Monetize models/algorithms**
- **Monetize theories**

## Applications

- Monetize services/products



- **Reward human intelligence, thus fostering innovation.**
- Reward data engineers, thus maintaining sustainable AI.
- Unleash researchers/engineers from restricted environments.

# Monetize IPs & DAs

## Very weakly Monetized

Scientist/professor/researcher/freelancer

- **Algorithm & Theory**  
e.g. Transformer, diffusion model
- Open-Source
- Data

Foundation models  
e.g. GPT, Stable diffusion

## Monetized

Entrepreneur

Products

ChatGPT, Midjourney



## Monetize the whole chain of IPs & DAs

Scientist/professor/researcher/freelancer

Entrepreneur

- **Algorithm & Theory**  
e.g. Transformer, diffusion model
- Open-Source
- Data

Foundation models  
e.g. GPT, Stable diffusion

Products

ChatGPT, Midjourney

# Blockchain Pipeline

# Blockchain Pipeline

## AI features

- World-wide accessible infrastructure
- On-chain data
- high-throughput computing
- Efficiency & parallelism & scalability
- Low cost for on-chain deployment



### Bitcoin

#### UTXO Model

- Scale vertically
- Better parallelism
- Potential scalability
- UTXO owned by users
- Harder smart contract

### Ecosystem

#### Layer 2

- Scalability
- On-chain data
- Layer-1 smart contract
- Low gas fee



### Ethereum

#### Account Model

- Easy smart contract
- Flexible state accessibility
- Scale horizontally
- Harder parallelism
- High gas fee

### Ecosystem

#### Layer 2

- Efficiency
- Low gas fee
- Off-chain
- Diverse ecosystem

#### Layer 3

# Thanks

Email: [zhaodeli@gmail.com](mailto:zhaodeli@gmail.com)  
Homepage: [zhaodeli.github.io](https://zhaodeli.github.io)

