AI X WEB3

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LECTURE OVERVIEW

- Current popular projects and their impact.
- The value of blockchain and modern AI.
- Challenges and opportunities in the AI Web3 space.

GOAT ($0 → $300M IN A WEEK)

- Agents with Wallets Yapping on X:
  - Other examples: AIxbt, Virtuals (Luna, ai16z), Zerebro
  - Truth Terminal: A Twitter agent trained on obscure internet content (4chan, Reddit).
  - Gospel of Goatse: The creation of the cryptocurrency Goatseus Maximus ($GOAT).
  - Popularity: $50K grant from Marc Andreessen, pumps $GOAT token.

BITTENSOR: A DECENTRALIZED AI NETWORK ($5B MARKET CAP)

- Decentralized AI marketplace for models.
- Incentivized contributions with TAO tokens.
- Scalable AI computations using blockchain.
- Prominent user: Nous Research.

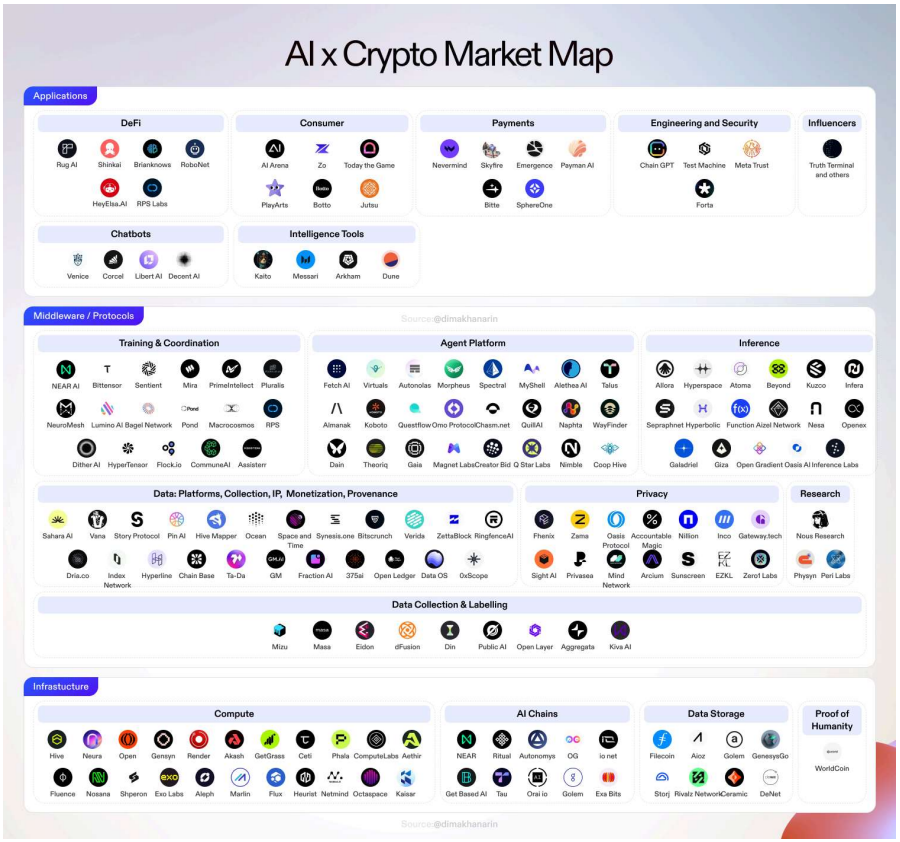
DISTRO (DISTRIBUTED TRAINING OVER-THE-INTERNET)

- Reduces inter-GPU communication by up to 10,000x.
- Enables decentralized AI training.
- Open-source collaboration and environmental impact reduction.
- Real-world validation with a 15-billion parameter language model.

ORA / CARTESI

- On-chain inference using optimistic rollup.
- Converts CPU instructions into EVM.

ECOSYSTEM OVERVIEW



IDEAL AI WEB3

- Peer-reviewed system for high quality data.
- Efficient GPU rollup to reduce costs.
- Applications: AI voting (DAO delegates), attestation for creators.

VALUE OF MODERN AI

- Abilities: Knowledge access, planning, creativity, text/multimodal capabilities.
- Impact: Replacing junior workers, smart contract writing, content generation.
- Resources: Data, training compute, inference, tools.

THE VALUE OF BLOCKCHAIN TECHNOLOGY

- Blockchain as a Trustless Overseer:
  - Decentralized Transaction Records:
    - Reduces the cost of operating a currency.
    - Improves usability by maintaining a digital format.
    - Enhances security through transparency and traceability.
  - Decentralized Smart Contracts:
    - Replaces traditional escrow services.
    - Enables decentralized marketplaces and loan systems.

- Tokenization
    - Facilitates communal ownership of assets.
    - Supports decentralized marketplaces and DeFi platforms.
    - Operates with fewer regulatory constraints.

- Scalable Infrastructure:
    - Blockchain as a default "Stripe clone" for payments.
    - Enables the building of trusted systems without relying on brand recognition.
    - Open-source and composability
- Privacy Technologies Enhancing AI Privacy:
    - Zero-Knowledge Machine Learning (zkML):
        - Proves that a model was run on data without revealing the data itself.
    - Fully Homomorphic Encryption (FHE):
        - Preserves the privacy of AI models.
        - Allows encrypted computations on encrypted data.

AI X WEB3 SYNERGY - SHARED BENEFITS

- Trust without a centralized party
- Transparency with optional privacy:
  - Compute: Fully Homomorphic Encryption (FHE).
  - Data: Zero-Knowledge Machine Learning (zkML).
- Micro and international payments.
- Ownership, control, and dividends through DAOs.

AI X WEB3 SYNERGY - DATA

- High-quality data requires a peer-review system similar to academic publishing:
  - Scientific publishing is already a decentralized ledger. Libraries have copies of publications, and there is no centralized journal.
  - Authors and reviewers own their reputation (not tied to platforms, such as, Twitter).
  - Enables international payments and collaboration.
- Low-quality data tasks:
  - Mostly handled by AI, but some tasks (e.g., image labeling, multi-step reasoning) still need human input.
  - Access to cheaper international labor.
- Attestation:
  - Pay creators for their work.
  - Deep fake protection: For example, proof of authenticity for photographs.
  - Licensing ensures that authors are paid even if the data is on-chain.

AI X WEB3 SYNERGY - TRAINING

- Pooling resources for training.
- Trusted training with untrusted hardware:
    - A hydroelectric plant in a developing country can be as trusted as AWS for creating sensitive models.
- Transparency and repeatability:
    - Traceability of data used in training.

AI X WEB3 SYNERGY - INFERENCE

- Attestation ensures creators are paid for their contributions.
- Micropayments for using AI models.
- Recording transactions on-chain by default helps generate human-reviewed data.
- Tools for inference:
    - Ora, Cartesi, oracles, and Trusted Execution Environments (TEEs).

AI X WEB3 SYNERGY - TOOLS AND PROMPTS

- Tools:
  - Oracles for trusted data.
  - Verified Retrieval-Augmented Generation (RAG).
  - zk-RAG: Adopting zero-knowledge oracles for privacy.
- Prompts:
  - Marketplace for selling prompts and agents.
  - AI DAO delegate for governance.

DIFFICULTIES

- Technical challenges: On-chain inference, GPU rollups, zkML, FHE.
- Data creation: Needs expert input.
- Talent attraction: AI researchers prefer strong teams.
- Investment challenges:
    - Web3 requires incubators and token listings.
    - The AI Web3 space remains underfunded compared to centralized AI:
        - $2B is almost nothing compared to OpenAI's $18B, Anthropic's $7B, and Scale AI's $1.4B.

CONCLUSION

- Web3 is a natural place for trustless collaborative AI.
- Initial successful traction that needs more resources and talent.
- Revolutionary applications are possible with the synergy of AI and Web3.

THANK YOU!

QUESTIONS AND DISCUSSION

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