

Architect Insights

The AiBCs of AI, Blockchain, and Crypto

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Executive Summary



AI + Blockchain + Crypto (AiBC) is Transformative

Blockchain will be essential in establishing a trustworthy and efficient AI ecosystem, while Crypto adds decentralized payment methods



Significantly Improves AI Data Integrity

Blockchain technology helps solve many AI data challenges regarding content origin, accuracy, and integrity



Platform to Support Innovation Across Sectors

The combined technology stack enables significant improvement of core functionality and automation. AI Agents are a key driving force for innovation.



Improved Efficiency and Security

AI provides intelligence to optimize blockchain capabilities and enhance overall security



Trust in AI is Enhanced by Decentralization

Decentralization enhances overall system trust regarding transparency, data integrity, and arguably censorship, and potential bias from centralized control



Impact Translates to a Huge Market Segment

Future Market Insights projects the AI/Blockchain market value at \$3.5B by 2033



2025 Poised for Significant Growth

Funding for AI/Blockchain companies represented 8.5% of all crypto deals and 10% of all crypto related invested capital in 2024, and expanding



Challenges Remain

It will take some time to fully realize benefits, but the basis for immediate value exists today

Why is AiBC so important?

A combination of technologies to build a more secure, transparent, and efficient digital economy



Trust

AI driven activities on a Blockchain are transparent, immutable and auditable



Federated Learning

Multiple parties can contribute to AI data sets while maintaining data privacy and ownership



Decentralization

Improves transparency and helps protect against censorship and bias from centralized AI control



Data Integrity

Establish and maintain ownership, origin, and authenticity of AI data sets



Security

Improved fraud and identity management, as well as overall system security



Efficiency

Facilitates enhanced automation and efficiency across entire system and application processes

Benefits of AiBC: Integrity of AI Source Data

CHARACTERISTIC

IMPACT

Verifiable & Authenticated Data

Blockchain's immutable ledger tracks the origin, creation and modifications of AI datasets. This decentralized, verifiable record ensures the authenticity of data used reducing the risk of fraudulent, manipulated, and/or biased information.

Data Audit

AI auditing of blockchain activity continuously monitors data stored on the blockchain to ensure its accuracy and integrity.

Optimize Data Utilization

AI structures data to be compatible with smart contracts/applications, provides advanced data analysis, and ensures the integrity of data resources, improving the security, efficiency, and accuracy of execution.

Benefits of AiBC: Security

CHARACTERISTIC

IMPACT

Fraud Detection

Authenticate identity and validate transactions to prevent fraudulent data and transactions

Real-Time Threat Management

Leverage behavioral analysis to detect fraudulent activity and provide automated mitigation. Decentralization mitigates single point of failure, improving system robustness

Adaptive Security

Learn from past issues, simulate attacks, determine vulnerabilities and enact proactive measures

Protocol Analysis

AI's advanced analysis together with blockchain's ability to create robust identity verification improves efficiency and user control. Facilitates the creation of global IDs

Privacy Preserving Computation

Zero Knowledge Proof (ZKPs) process sensitive data without exposing details, and oracles maintain data confidentiality while enabling smart contract execution

Benefits of AiBC: Smart Contracts

CHARACTERISTIC

IMPACT

Smart Contract Development

AI code generated smart contracts improve efficiency and quality, as well as can add nuance to complex execution

Enhanced Security

AI systems continuously monitor smart contracts, identifying risks and automating risk mitigation strategies, ensuring the integrity of smart contracts

Dynamic Decision Making

Enable smart contracts to automatically, and dynamically modify their execution criteria based upon evolving events and conditions

Risk Assessment

Provides risk assessment of smart contract implications to participants enabling constituents to understand implications prior to final agreement

Benefits of AiBC: Infrastructure

CHARACTERISTIC

IMPACT

Improved Scalability

Analyze network operations and optimize loads, adjust parameters like block size and transaction prioritization, to enhance increased activity

Operational Efficiency

AI driven pricing can effectively match blockchain infrastructure with demand, reducing computing costs and improving efficiency

Handle Larger Data Sets

AI enhanced consensus mechanisms will improve scalability which will enable blockchain networks to handle larger volumes of data efficiently

Optimizes DePIN

AI and blockchain technology offers several significant benefits across a variety of Decentralized Physical Infrastructure Networks

Benefits of AiBC: AI Agents

CHARACTERISTIC

IMPACT

Operational Efficiency

Automating intelligent decision-making processes, improve efficiency and user experiences

Data Security and Privacy

Blockchain addresses the data security and privacy concerns associated ensuring AI agents operational integrity

Transparency and Trust

AI agents perform tasks autonomously, without human intervention, with the auditable and transparent nature of blockchain providing greater trust in the process

Benefits of AiBC: Crypto Digital Economy

CHARACTERISTIC

IMPACT

Decentralized Monetization

Crypto economy enables tokenization of AI models, datasets, and computing resources

Incentivization

Rewards earned for contributions and activity

Automated Transactions

Digital rails facilitate autonomous financial operations ensuring the automatic exchange of resources and settlement of financial obligations -importantly, including cross blockchain transactions

How AiBC Affects Subsectors

Examples of AiBC impacts on crypto-related subsectors Architect Partners tracks



Brokers & Exchanges

- Real-time data analysis
- Auto trade execution
- Improves liquidity management
- Fraud and risk management
- Automated valuation and pricing models



Blockchains & Protocols

- Improves consensus mechanisms
- Enables greater scalability
- Enhances security and detect malicious activity
- Optimizes operations
- Optimizes cross chain transactions



Investing & Trading Infrastructure

- Efficient algorithmic trading
- Improves automated market makers
- Portfolio management
- Risk management
- Improves prediction markets
- Smart order routing



Mining & Staking

- Streamline operations
- Optimize mining rewards
- Drive efficient energy utilization
- Staking optimization
- Dynamic allocation to maximize staking yields

How AiBC Affects Subsectors

Examples of AiBC impacts on crypto-related subsectors Architect Partners tracks



Payments Infrastructure

- Enhances security and fraud prevention
- Auditability
- Improves efficiency
- Enhances user experience
- Mitigates payment related risks



Developer Tools

- Improves efficiency
- Optimizes performance, security and data validation
- System operations modeling and predictive analysis
- Facilitates cross chain compatibility
- Enables collaborative decentralized development



Consumer Applications

- Tailored personalized experiences
- More secure personal data and ID management
- Protects consumers from fraudulent products & transactions
- Enhances content reliability



Enterprise Solutions

- Enhances transparency and trust
- Optimizes supply chain management
- Improves enterprise data management
- Improves data-driven decision making
- More efficient financial management and controls

Challenges remain, inhibiting widespread adoption

Balancing Data and Privacy

Highly secure solutions such as zero-knowledge proofs or SMPC will be required to ensure highly sensitive data can be made available for usage, while the underlying data remains private

Scalability

AI + blockchain requires heavy computation. Current blockchain platforms have limited computational capabilities. AI+BC will create bottlenecks that hinder real-time AI applications and increase costs

Technical Complexity

Integration of the two technologies face a complex environment working to strike a balance between decentralization, which enables greater security, and scalability which improves performance.

Technical and Operational Risks

Integrating AI with blockchain introduces new cybersecurity risks, data poisoning and malicious AI training. Interoperability between diverse AI and blockchain infrastructures increases operational complexity

Interoperability

Creating standardized communication and data sharing between diverse blockchain and AI infrastructure will need to be established

Regulatory Environment

Blockchain assets and transactions don't always fit neatly into existing categories, creating an uncertain legal, regulatory and compliance environment, especially across geographic regions

Coopetition

Shared, decentralized data pools that maintain data privacy is a significant opportunity, and a unique challenge for businesses. Governance, consensus and decision-making rules need to be clear, fair, and transparent

Consumer Privacy and Ethical Concerns

Shared immutable blockchain ledgers heighten risks associated with unauthorized access or inadvertent exposure of sensitive consumer data, especially when integrating AI algorithms that depend heavily on user data.

Near Term Opportunities

CHARACTERISTIC

IMPACT

Smart Contracts

Enhancing smart contracts with AI decision making enables more dynamic, autonomous, and adaptive transactions

Personalized Experiences

Personalized and adaptive user experiences across a variety of applications with an initial focus on financial services including research, market analysis, and trading bots

Security and Fraud Detection

AI enhanced blockchain security including; Real-time fraud detection, on-chain identity verification, KYC/AML, and threat intelligence for smart contracts

Handle Larger Data Sets

AI can enhance consensus mechanisms and improve scalability which will enable blockchain networks to handle larger volumes of data efficiently

Emerging Convergence Models

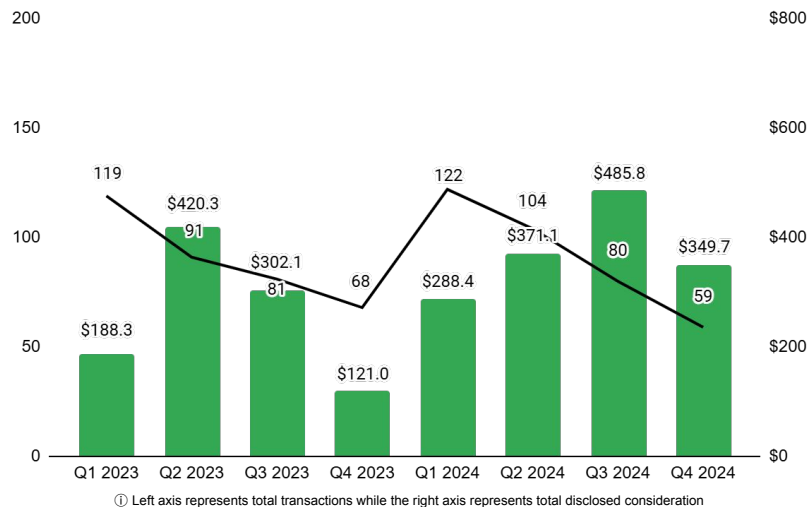
Decentralized AI networks leverage blockchain for secure collaboration, enabling AI agents to interact autonomously across ecosystems. Hybrid architectures integrate AI-driven consensus mechanisms to optimize blockchain scalability and efficiency

Total AiBC Investment Increased 15% YoY While Deal Count Increased by 27%

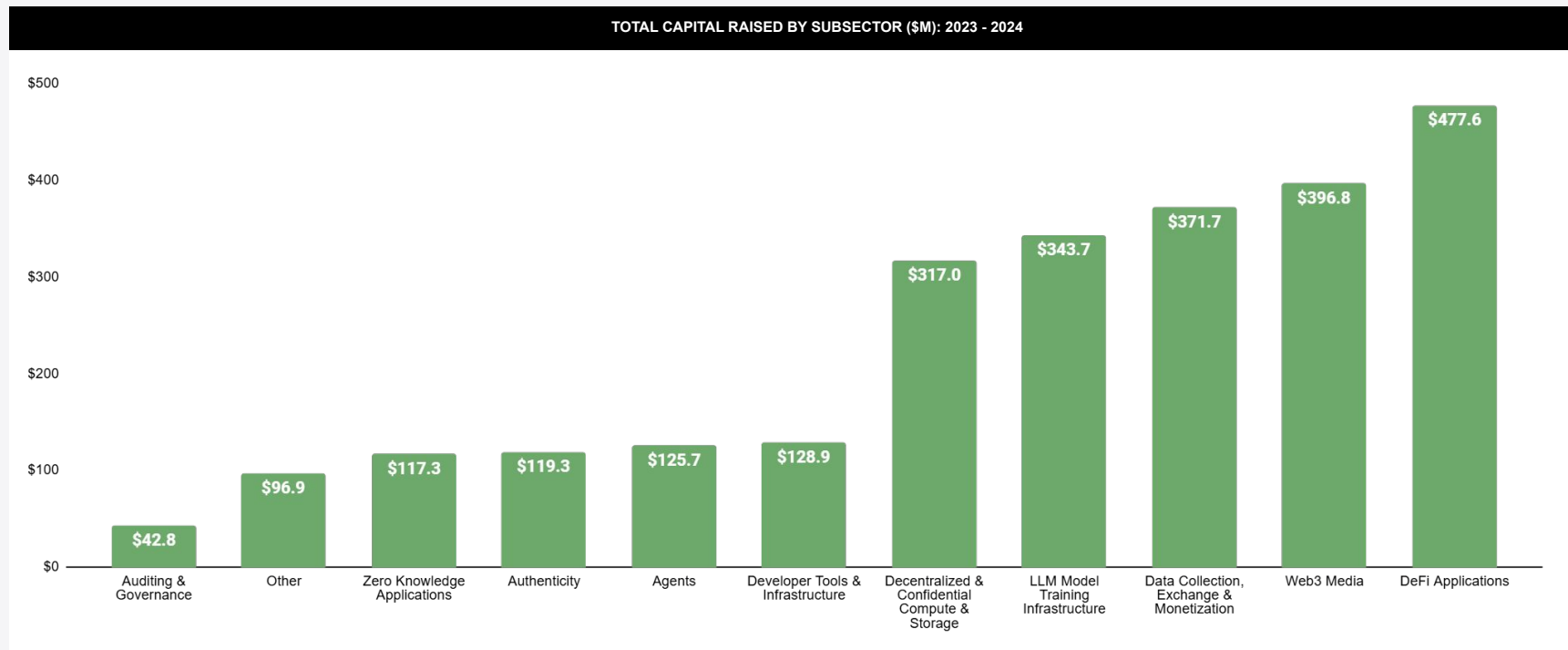
AiBC Financings have followed the flat or declining fundraising environment of blockchain / crypto companies, as opposed to the parabolic growth of general AI investments.

However, AiBC funding represented 8.5% of the number of crypto related financings, and 10% of all crypto related deployed capital in 2024

AiBC Total Capital Raised & Transaction Count by Quarter

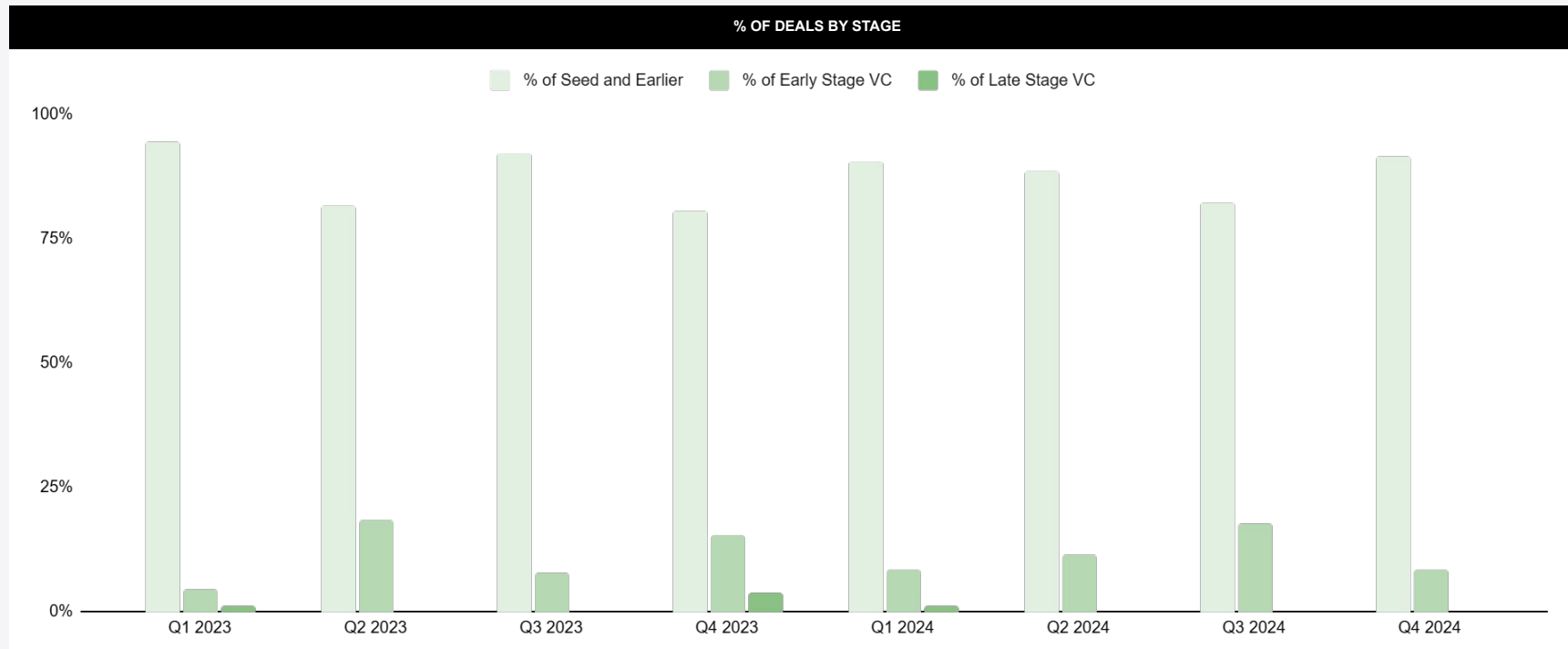


AiBC Investment Distribution



Source: Architect Partners Crypto Private Financing Tracker.

Funding is Almost Exclusively Focused on Seed and Earlier Stage Rounds



Source: Architect Partners Crypto Private Financing Tracker.

Top AiBC Capital Raises in 2024

TOP 15 TRANSACTION LIST (sorted by amount raised)

COMPANY	TOTAL RAISED (\$M USD)	ANNOUNCED DATE	STAGE	SUBCATEGORY
Sentient	\$85.0	7/2/2024	Seed Round	Blockchains & Protocols
Zama	79.0	3/7/2024	Series A	Data & Data Analytics
TradeAlgo	69.5	10/2/2024	Series A	Data & Data Analytics
CeTi	60.0	7/23/2024	Early Stage VC	Blockchains & Protocols
Arbol	60.0	4/30/2024	Series B	Enterprise Solutions
VoloFin	50.0	11/18/2024	Early Stage VC	Enterprise Solutions
KarmaCheck	45.0	6/27/2024	Series B	Enterprise Solutions
Sahara AI	43.0	8/14/2024	Series A	Blockchains & Protocols
IO Research	30.0	3/5/2024	Series A	Enterprise Solutions
Nillion	25.0	10/30/2024	Early Stage VC	Data & Data Analytics
UPTIQ	23.6	11/11/2024	Series A	Data & Data Analytics
Hyperbolic	20.0	12/10/2024	Series A	Enterprise Solutions
Edge Matrix Chain	20.0	8/29/2024	Series A	Blockchains & Protocols
Felix	19.1	1/29/2024	Series A	Payments Infrastructure
ChainOpera	17.0	12/26/2024	Seed Round	DApp: Investing & Trading

① Ranking does not include non-disclosed transactions.

Most Top AiBC Investors Have Been Blockchain Native

INVESTOR GROUPS

TRADITIONAL FINANCIAL



BLOCKCHAIN NATIVE STRATEGIC



BLOCKCHAIN NATIVE FINANCIAL



Leading Organizations are Beginning to Implement



Microsoft has partnered with Aptos Labs to integrate blockchain into Azure, focusing on security and scalability for decentralized applications. This collaboration uses AI to enhance performance and safeguard data. Azure processes over 200 million transactions daily, offering global scalability, while Aptos' blockchain technology ensures transparency and reliability, enabling businesses to innovate securely in decentralized ecosystems.



Mastercard partnered with Feedzai, a regulatory technology platform specializing in AI-driven fraud detection, to enhance security in cryptocurrency transactions. This collaboration integrates Feedzai's AI capabilities with Mastercard's CipherTrace platform, enabling real-time monitoring and prevention of fraudulent activities across over 6,000 cryptocurrency exchanges.



Casper Labs and IBM Consulting have partnered to create a blockchain-powered AI governance solution, leveraging IBM WatsonX's governance. Built on Casper's tamper-resistant blockchain, it ensures AI system transparency with features like a compliance dashboard, version control, and audit reporting. The solution will be available in beta in Q1 2024, supporting industries such as finance, healthcare, and retail. Casper's blockchain handles 10,000+ transactions per second with finality in ~1.5 seconds.

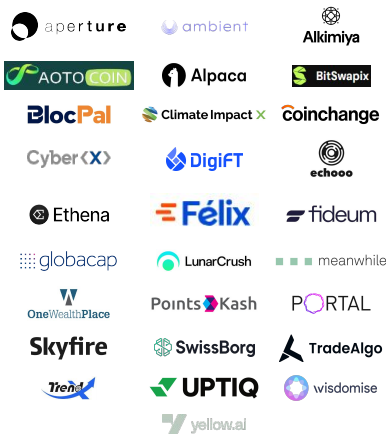


Ford's battery passport pilot with Everledger, blockchain and AI were used to track the lifecycle of EV batteries. Blockchain created an immutable ledger to record each battery's unique ID, origin, chemistry, and recycling status, ensuring transparent and tamper-proof data across the supply chain. AI analyzed data from blockchain entries and IoT sensors to monitor battery performance, predict degradation, and optimize recycling processes. Batteries were tagged with 2D data matrix codes, scanned at key points for real-time updates. Over 90% of tracked batteries were successfully monitored.

Companies Building the AiBC Future

(MINIMUM \$5M INVESTED IN COMPANY)

DEFI APPLICATIONS



DATA VALIDATORS / ORACLES



ZERO KNOWLEDGE APPLICATIONS



PREDICTION

None

AUTHENTICITY



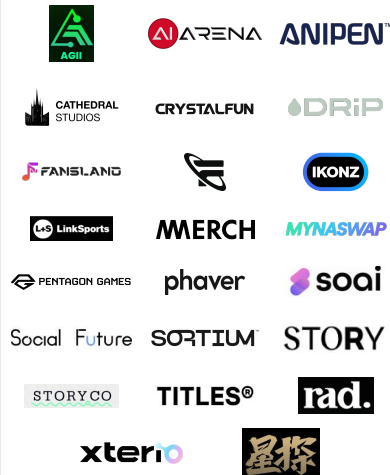
LARGE LANGUAGE MODEL TRAINING INFRASTRUCTURE



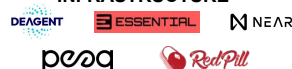
DATA COLLECTION, EXCHANGE & MONETIZATION



WEB3 MEDIA



DEVELOPER TOOLS & INFRASTRUCTURE



AUDITING & GOVERNANCE



AGENTS



DECENTRALIZED & CONFIDENTIAL COMPUTE & STORAGE



Case Studies

NEAR



Solution Category:

Developer Tools & Infrastructure

Capital Raised / Valuation:

\$355M Total Raised

Investors: Tiger Global Management, ParaFi Capital, Corner Capital management, Blockchange Ventures, Dragonfly, MetaWeb Ventures, Woodstock Fund, AU21 Capital, TAG Ventures, Hashed, Kosmos Ventures, SID Venture Partners, Shift Capital, Grupo HS3, Outlier Ventures, etc.

Overview:

NEAR is a layer-1 blockchain providing a secure and scalable decentralized application building platform for developers and entrepreneurs. In 2023, NEAR launched NEAR Tasks, a global gigs marketplace platform built on NEAR's blockchain where users can freely list and fulfill AI requests. NEAR Tasks leverages human intelligence in machine learning by allowing AI developers to hire human taskers for crypto compensation. NEAR's AI ambitions also include autonomous AI developers to make application building more accessible and decentralized AI ownership, facilitated through the their blockchain, to allow their web3 community to become an ecosystem for user-owned AI applications / models.

Fetch.ai



Solution Category:

Agents

Capital Raised / Valuation:

\$75M Total Raised

Investors: Assmbl.ai

Overview:

Fetch AI is a blockchain platform that leverages decentralized AI power solutions to optimize and automate processes . Fetch.ai is the developer of AI Agents and Engines which essentially serve as functional AI assistants with a wide array of capabilities spanning from financial analysis to increasing logistical efficiency. Fetch. ai aims to revolutionize the AI space by making it more simple and accessible. AI Agents can help fully automate tasks and serve as self-operating decision makers and problem solvers. Furthermore, Fetch AI's AI Engine parses and connects human language output to AI Agents to execute tasks. Fetch.ai's AI Agents currently mainly serve in the crypto economy, enhancing efficiency and security for individuals and firms managing millions of user data points.

Case Studies

bitsCrunch



Solution Category:

Developer Tools & Infrastructure

Capital Raised / Valuation:

\$6.75M Total Raised

Investors: Absoluta Digital, Animoca Brands, Animoca Ventures, Artemis Capital, BasedVC, Chainlink Labs, Coinbase Ventures, Crypto.com Capital, Cypher Capital, DuckDAO, Levitate Labs, Morningstar Ventures, Red Beard Ventures, Shima Capital

Overview:

bitsCrunch operates two main businesses: a B2B API service and a B2C NFT analytics service. bitsCrunch is an AI-enhanced blockchain data platform that allow developers to build reliable applications. Using a decentralized structure, bitsCrunch eliminates intermediaries, enabling efficient building of applications. On the B2C side, bitsCrunch also operates Unleash NFTs, an industry leader in blockchain analytics and forensics, leveraging AI and ML to detect fraud in the NFT space tackling challenges such as digital art forgery and NFT wash trading.

Gensyn



Solution Category:

Decentralized & Confidential Compute & Storage

Capital Raised / Valuation:

\$4.3M Total Raised

Investors: Andreessen Horowitz, Canonical Crypto, CoinFund, Daedalus Angels, Druid Ventures, Eden Block, Id4 Ventures, M31 Capital Partners, Maven 11, PEER Venture Partners, Protocol Labs, Zee Prime Capital

Overview:

Gensyn is a blockchain based machine learning network that connects developers to excess computing power world-wide. This allows developers to train models using a decentralized network of devices, including personal computers with idle GPUs and data centers with excess capacity. Gensyn enables businesses and researchers to access cost-effective computing power by leveraging data nodes and AI to access excess computing capacity without breaching compliance. By organizing a network of machine learning-capable hardware, Gensyn is able to facilitate and share machine learning infrastructure, furthering industry growth.

Case Studies

SingularityNET



Solution Category:

Data Collection, Exchange & Monetization

Capital Raised / Valuation:

\$25M Total Raised

Investors: GDA Investments, Fundamental Labs, Alpha Transform Holdings

Overview:

SingularityNET is a decentralized platform that serves as a marketplace for AI developers and users through an automated transaction system using the native AGIX token. SingularityNET's advanced interface helps connect users with relevant AI solutions whose functions range including colorizing black and white photos, wrapping algorithms, and writing text summaries. SingularityNET also publishes new AI services and tracks top performers gaining advanced intel on developments in the AI space. Stakeholders range from smaller AI developers/ventures, investors in the fintech/AI space, firms looking for unique AI solutions, and holders of the AGIX token.

Ocean Protocol



Solution Category:

Data Collection, Exchange & Monetization

Capital Raised / Valuation:

\$5M Total Raised

Investors: Matterblock, Lbanks Labs, Blockchain Coinvestors, Cypher Capital, Scytale Ventures, Blockwall Management, First Principles Ventures, Kosmos Ventures, Outlier Ventures, Amino Capital.

Overview:

Ocean Protocol is a blockchain based data exchange platform that allows secure transactions in a digital data marketplace. User datasets and data NFTs get converted to data tokens, which helps safeguard the data. Ultimately, Ocean Protocol aims to unlock the value of data through decentralized and secure exchange to foster innovation in industries such as AI and finance. Ocean Protocol also offers Ocean Nodes, a tool to train and develop AI which can also be sold through the Ocean Protocol data market. Stakeholders include data providers, data consumers, AI developers, AI consumers, etc.

Case Studies

Verifiable Compute



Solution Category:

Data security, data integrity

Corporate Partnership

Partners: EQTY Lab, Intel, and NVIDIA

Overview:

Verifiable Compute, developed by EQTY Lab, Intel, and NVIDIA, combines hardware security and blockchain technology to create trusted AI workflows. The framework uses Intel's trusted execution environments and NVIDIA GPUs to cryptographically secure AI computations, generating tamper-proof attestations for each process. These records are anchored on Hedera's blockchain via its Consensus Service, ensuring immutable, time stamped verification of AI operation. Designed to comply with regulations like the EU AI Act, the solution enables real-time auditing and governance, addressing concerns around data integrity in sectors like healthcare and finance. By merging cryptographic proofs with decentralized ledger technology, Verifiable Compute bridges AI accountability and Web3 transparency, setting a new standard for secure, auditable AI systems already integrated into Databricks, Palantir, Service Now, Dell

Artificial Superintelligence Alliance



Solution Category:

Decentralized AI

Corporate Partnership

Fetch.ai, SingularityNET, Ocean Protocol

Overview:

The Artificial Superintelligence Alliance (ASI) unites Fetch.ai, SingularityNET, and Ocean Protocol in a decentralized AI ecosystem powered by blockchain. Fetch.ai contributes autonomous agents for task automation, SingularityNET advances open-source artificial general intelligence (AGI), and Ocean Protocol enables secure, blockchain-based data sharing for AI training. The alliance's unified \$ASI token (merging \$FET, \$AGIX, and \$OCEAN) streamlines governance, staking, and access to AI services, challenging centralized AI dominance. By integrating AI, crypto, and decentralized infrastructure, ASI promotes ethical, transparent, and democratized AI development—key for sectors like healthcare, finance, and logistics. This collaboration marks a pivotal step toward decentralized superintelligence

2025 Outlook

Financings and M&A

Financings

2025 VC investments in AiBC are expected to increase from the 10% share of 2024 crypto focused investments, driven by AI-powered blockchain applications that will enhance data security, transparency, and efficiency. A favorable regulatory environment and increased institutional adoption of digital assets will further fuel growth, as AI will play a critical role across the entire blockchain and crypto ecosystem

Due to near term opportunities for AI-driven trading, on-chain analytics, automated compliance solutions, and improved blockchain efficiency, VC funds are likely to target startups leveraging AI for smart contracts, decentralized identity, and liquidity optimization. The convergence of AI and blockchain is set to reshape digital finance, making 2025 a consequential year for venture capital in the space.

M&A

Acquisition activity has been very light, as would be expected at this stage of market development. Activity will increase in proportion to the successes of funded companies. A more robust M&A market may not emerge until 2026, or later, which provides enough time for funded companies to begin showing consistent success and growth



2025 Outlook

Market Growth

Ready for Lift-Off

AiBC is set to revolutionize various industries, from finance to healthcare, by enhancing security, transparency, and efficiency.

This year will mark the beginning of widespread implementation, with companies leveraging AI's analytical capabilities alongside blockchain's secure, decentralized structure to create innovative solutions.

One of the key methods for implementing AI support through blockchain will be the use of AI agents which automate complex tasks proactively without human interaction aside from the initial programming, definitions, and maintenance.

2025 will see a focus on the financial sector, which is one of the most promising near-term applications of AiBC where AI-driven algorithms are expected to work alongside blockchain's immutable ledgers to detect fraud, streamline operations, predict market trends, and automate transactions.

As these technologies continue to evolve together, a new era of digital trust and automation that will reshape how businesses operate and how we interact with technology in our daily lives



About Architect Partners

Architect Partners is the leading M&A and strategic financing advisory firm serving companies on the front lines of crypto, blockchain, DeFi, fintech, and digital assets.

Architect Partners offers unparalleled senior judgment and expertise, delivering premium-value results for its clients. The Architect Partners team has completed over 350 transactions worth over \$30B in value across the globe.

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