Advanced Bitcoin Forking Project(BLC, BitcoinLC)

Initiated

By

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This document outlines the goals and expectations of a Bitcoin fork designed to leverage the latest technological advancements unavailable in 2008 when Bitcoin was first created. This fork aims to address current challenges by significantly reducing electricity consumption in both mining and general operations.

Executive Summary

BLC, BitcoinLC is an innovative blockchain platform designed to revolutionize consensus mechanisms by replacing traditional Proof-of-Work (PoW) with Proof-of-Useful-Work (PoUW). This PoUW-based model repurposes computational resources for performing meaningful, verifiable AI tasks—such as machine learning model training, data analysis, and image processing—rather than solving cryptographic puzzles, thereby adding real-world value and reducing environmental impact. This approach not only maintains decentralized blockchain integrity but also meets the growing demand for distributed AI computing.

Mission Statement

BLC's mission is to lead a new era in blockchain technology by transforming computational power into socially useful AI processing, enhancing blockchain sustainability and utility while fostering an ecosystem of decentralized AI innovation.

Business Objectives

1. **Launch BLC with PoUW Consensus**: Establish and deploy a fully operational blockchain network with an integrated AI task processing capability to replace traditional mining mechanisms.
2. **Establish AI Task Marketplace**: Create a decentralized marketplace for AI tasks, where task providers and miners can interact directly, facilitating diverse AI processing applications.

3. **Grow Miner Ecosystem**: Enable miners with a range of AI-capable hardware, supporting broader participation and reducing centralization risks.
4. **Monetize Task Processing**: Implement a fee structure for AI task submissions and task prioritization, ensuring consistent revenue and supporting the platform's growth.

Industry Analysis

The cryptocurrency industry has faced scrutiny due to its high energy consumption, with many blockchain networks relying on PoW, leading to environmental concerns. Concurrently, AI's rapid expansion has fueled demand for computational power to meet growing data processing needs. BLC addresses both challenges by introducing PoUW to repurpose computational resources toward useful AI computations, appealing to both environmental advocates and tech sectors requiring decentralized, scalable computing solutions.

Decentralized AI processing cryptos leverage blockchain networks to distribute computational tasks for AI model training and data processing, aiming to achieve decentralized and scalable AI without reliance on central servers. Here's a comparison of notable projects that focus on decentralized AI processing:

1. Fetch.ai

- **Goal**: A platform to deploy autonomous "agents" that act on behalf of users to perform tasks using decentralized computing power and AI algorithms.
- **Consensus**: Uses a modified Proof-of-Stake (PoS) mechanism to support smart contracts and decentralized agent-based systems.
- **AI Integration**: Specializes in facilitating decentralized data processing and predictive modeling, often focused on logistics, supply chains, and finance.
- **Strengths**: Strong partnerships and focus on specific industry use cases, along with low-energy requirements due to PoS.

- **Limitations**: Limited to specific use cases like data sharing and marketplace transactions; scalability to larger AI models may need further optimization.

2. SingularityNET

- **Goal**: A decentralized AI marketplace where developers can sell their AI algorithms, enabling users to create and combine AI services into complex AI systems.
- **Consensus**: Built on Ethereum and migrating to Cardano to reduce gas fees and improve scalability.
- **AI Integration**: Focuses on connecting various AI services in a modular fashion, allowing for distributed AI model training and service development.
- **Strengths**: A comprehensive AI marketplace with wide-ranging AI applications, and strong community and development backing.
- **Limitations**: High gas fees on Ethereum and complexity of use cases may slow adoption; limited direct AI training capacity compared to platforms specifically designed for large-scale AI processing.

3. Ocean Protocol

- **Goal**: Focuses on decentralized data exchange, enabling secure and transparent AI data sharing and processing. It encourages data monetization for AI training through a secure marketplace.
- **Consensus**: Uses Proof-of-Authority (PoA) with the possibility of moving towards PoS for better decentralization.
- **AI Integration**: Primarily designed for data access and monetization, allowing data providers to make datasets available for AI model training without sharing raw data.
- **Strengths**: Robust data privacy and ownership solutions with an emphasis on ethical data sharing for AI training.
- **Limitations**: Not specifically built for on-chain AI model training; mainly focuses on data access rather than large-scale distributed AI processing.

4. Golem Network

- **Goal**: A decentralized marketplace for computational power, allowing users to rent out CPU/GPU resources for processing tasks, including AI model training.
- **Consensus**: Initially built on Ethereum; tasks are completed and verified off-chain to minimize gas fees.
- **AI Integration**: Broadly supports decentralized computing tasks, with specific use cases in media processing, machine learning, and AI model training.
- **Strengths**: Flexible computational marketplace that allows large-scale AI processing tasks; attractive for high-compute needs without centralized cloud costs.
- **Limitations**: Limited decentralized governance; no native AI model deployment infrastructure, as tasks are designed to be externally controlled.

5. BLC (Hypothetical PoUW-Based Project)

- **Goal**: A decentralized blockchain network using Proof-of-Useful-Work (PoUW) to incentivize miners to perform AI tasks (e.g., machine learning, data processing) instead of traditional cryptographic puzzles.
- **Consensus**: PoUW enables miners to validate blocks by performing verifiable AI computations rather than traditional mining.
- **AI Integration**: Built directly for AI model training, where computational resources are used efficiently for AI tasks, providing both network security and useful AI outputs.
- **Strengths**: Solves the inefficiencies of traditional PoW by making mining energy productive, ideally suited for AI training without environmental strain.
- **Limitations**: Requires specialized hardware, potentially leading to centralization risks. Complex verification of AI tasks could present scaling challenges.

Overall Comparison Summary

Project	AI Task Focus	Consensus	Primary Strength	Key Limitation
Fetch.ai	Autonomous agent tasks	PoS	Industry-specific applications	Limited scalability for complex AI
SingularityNET	AI service marketplace	PoS (Cardano)	Modular AI service composition	High gas fees, limited training
Ocean Protocol	Data monetization for AI	PoA	Data privacy and ownership	Not directly for on-chain training
Golem Network	General-purpose computation	Off-chain	Broad computational flexibility	Lacks native AI infrastructure
BLC	AI training for PoUW mining	PoUW	Productive energy use, AI focus	Specialized hardware requirements

Each of these projects brings unique strengths to decentralized AI processing, with options ranging from data-focused protocols to platforms specifically designed for AI model training

Market Growth Potential

- **Cryptocurrency & Blockchain**: The industry is valued at approximately $2 trillion and is projected to continue growing as regulatory frameworks develop.
- **AI & Machine Learning**: Expected to exceed $190 billion by 2025, driven by industries adopting AI-powered automation, big data analysis, and advanced modeling.
- **Green Technology**: Increasing investments in sustainable technologies highlight a growing trend in aligning corporate operations with environmental goals.

Target Market

1. **AI & Machine Learning Companies**: Firms seeking large-scale processing resources for intensive tasks such as model training or data analysis.
2. **Blockchain Enthusiasts & Miners**: Users interested in sustainable, impactful blockchain mining, leveraging AI-specific hardware.
3. **Research Institutions**: Universities, labs, and think tanks involved in computational research, such as genomics and climate science, that require decentralized processing power.
4. **Environmental Advocates**: Green organizations and investors seeking sustainable technology solutions with positive social impacts.

Products and Services

1. **Blockchain Platform with PoUW Consensus**: A blockchain network that replaces cryptographic puzzle-solving with AI tasks, enhancing mining sustainability and practical value.
2. **Decentralized AI Task Marketplace**: An AI task marketplace that allows providers to submit jobs and enables miners to compete for these tasks.
3. **AI Task Verification System**: A robust verification mechanism using cryptographic proofs (e.g., zk-SNARKs) to ensure AI tasks are completed accurately.
4. **Energy-Efficient Hardware Support**: Optimized hardware recommendations and support for miners, ensuring diverse hardware compatibility with GPUs, TPUs, and AI-specific processors.

Revenue Model

1. **Task Submission Fees**: AI task providers pay a submission fee to list tasks in the marketplace.
2. **Transaction Fees**: Each network transaction generates a small fee, contributing to platform revenue for every completed AI task.
3. **Miner Rewards**: Miners are rewarded in cryptocurrency based on the task's complexity and completion time, incentivizing sustained participation.
4. **Task Prioritization Premium**: High-priority AI tasks are given premium access, generating additional revenue by charging providers for urgency.

Competitive Advantage

1. **Eco-Friendly Consensus Mechanism**: PoUW's sustainability-focused design differentiates BLC from traditional PoW blockchains by converting computational energy into useful work.
2. **Scalable AI Task Allocation**: BLC's decentralized marketplace fosters a competitive environment for diverse AI tasks, creating a responsive, demand-driven computing network.
3. **Cryptographic Verification**: With zk-SNARKs and other cryptographic methods, BLC ensures reliable AI task verification, reducing fraud risks.
4. **Wide Hardware Compatibility**: By supporting a variety of AI-specific hardware, BLC attracts a broad miner base, mitigating centralization.

Technology Plan

1. **Blockchain Development**: Customize blockchain protocols to integrate PoUW, allowing seamless AI task submission, processing, and verification.
2. **AI Task Integration**: Establish standardized interfaces for AI task ingestion across multiple frameworks (e.g., TensorFlow, PyTorch).
3. **Verification Protocols**: Implement zk-SNARKs or equivalent proofs to ensure AI task verification with minimal resource consumption.
4. **User Interface & API**: Develop user-friendly portals and APIs for task providers and miners, supporting programmatic submissions and tracking.

Creating a new blockchain by forking Bitcoin and replacing the **Proof of Work (PoW)** consensus with **Proof of Useful Work (PoUW)** requires significant modifications to the Bitcoin Core source code.

Below is a high-level source code outline that replaces the mining process with an AI task-based PoUW mechanism. This involves key components such as task submission, task processing, verification of AI computation, and reward distribution. The example assumes AI tasks will be performed by miners and validated in a decentralized manner.

We'll break down the source code changes into key parts:

1. **Task Definition & Submission**: Creating a system where AI tasks can be submitted to the blockchain.
2. **AI Task Processing (Useful Work)**: Modifying the mining process to solve useful AI tasks.
3. **Task Verification**: Ensuring that AI tasks are verifiable by the network.
4. **Reward Distribution**: Rewarding miners based on the completion of useful work.

Step 1: Forking Bitcoin

To fork Bitcoin, you need to clone the Bitcoin Core repository and set up your own version. You can start by following these basic steps:

Bash
copy code

```
# Clone Bitcoin Core repository
git clone https://github.com/bitcoin/bitcoin.git
cd bitcoin
# Switch to the desired branch or create a new branch for your fork
git checkout -b proof-of-useful-work
```

Step 2: Define AI Tasks and Modify Consensus

We'll need to modify Bitcoin's consensus algorithm to integrate **Proof of Useful Work (PoUW)** and create the infrastructure for task submission, processing, and verification.

2.1 AI Task Structure

First, define the structure of an AI task. In src/ai_task.h:

cpp
copy code

```
// Define the structure for AI tasks
class AITask {
public:
    std::string task_id;        // Unique ID for the task
    std::string task_data;      // Data to be processed (e.g., dataset, model)
    uint64_t task_difficulty;  // Difficulty level of the AI task
    std::string task_result;    // Result of the task after processing
    std::string task_verifier; // Node that verifies the result

    AITask(std::string id, std::string data, uint64_t difficulty)
        : task_id(id), task_data(data), task_difficulty(difficulty), task_result(""), task_verifier("") {}

    bool IsComplete() const {
        return !task_result.empty();
    }
};
```

2.2 Task Submission

Modify the block creation to allow AI task submission. In src/miner.cpp, replace the traditional block creation logic with useful work processing:

cpp
copy code

```
#include "ai_task.h"

// Example function for submitting AI tasks
AITask SubmitAITask(std::string task_data, uint64_t difficulty) {
    // Generate a new AI task with the provided data and difficulty level
    AITask task(GenerateTaskID(), task_data, difficulty);

    // Broadcast the AI task to the network (for miners to pick up)
    BroadcastTaskToNetwork(task);

    return task;
}
```

2.3 AI Task Processing (Useful Work)

Miners need to perform the AI tasks instead of solving a hash puzzle. This example assumes that miners are tasked with training an AI model or performing data processing.

Modify the mining logic in src/miner.cpp:

cpp
copy code

```
#include "ai_task.h"

bool ProcessAITask(AITask& task) {
    // Example of performing useful AI computation (this could be any AI task, such as training a model)
    std::string result = PerformAIComputation(task.task_data, task.task_difficulty);

    // If AI computation is successful, update the task
    if (!result.empty()) {
```

```
        task.task_result = result;
        return true;
    }

    return false;
}
```

For illustration, PerformAIComputation could be a function that executes a machine learning task (training, data processing, etc.):

```
cpp
copy code
std::string PerformAIComputation(const std::string& data, uint64_t difficulty) {
    // This is a placeholder for actual AI processing logic
    // Here, you would implement code to train models, process data, or solve AI challenges
    // For example, using TensorFlow or PyTorch libraries to train a model on the provided data
    // Return the result of the AI computation (this would be complex in real-world scenarios)
    std::string result = "computed_result"; // Placeholder
    return result;
}
```

2.4 Task Verification (Distributed Verification of Results)

Other nodes need to verify the AI computation. This can be implemented using cryptographic proofs, such as zk-SNARKs, or by recalculating part of the task in a decentralized manner. Add a verification step in src/validation.cpp:

```
cpp
copy code
bool VerifyAITask(const AITask& task) {
    // Example of a basic verification function (this could be replaced with zk-SNARKs or similar proof schemes)
    bool is_valid = VerifyAIComputation(task.task_data, task.task_result);

    if (is_valid) {
        // Mark the task as verified and store the verifier node
        task.task_verifier = GetCurrentNode();
    }

    return is_valid;
```

```
}
```

Verification logic for AI computation:

```
cpp
copy code
bool VerifyAIComputation(const std::string& data, const std::string& result) {
    // Implement cryptographic verification of AI computation
    // This could involve zk-SNARKs, homomorphic encryption, or repeating part of the computation
    // Return true if the computation is valid and reproducible
    return true; // Placeholder
}
```

2.5 Block Validation (Include AI Tasks in Blocks)

Modify the block validation logic to include the AI task as part of the block's validation criteria. In src/validation.cpp, include the AI task check in the block validation process:

```
cpp
copy code
bool CheckBlock(const CBlock& block, CValidationState& state) {
    // Validate the block header, transactions, and other rules
    if (!CheckBlockHeader(block, state)) {
        return false;
    }

    // Validate the AI task associated with the block (PoUW)
    if (!VerifyAITask(block.ai_task)) {
        return state.DoS(100, error("CheckBlock: AI task verification failed"));
    }

    return true;
}
```

2.6 Reward Distribution

Modify the reward distribution logic to base miner rewards on the completion of AI tasks rather than solving cryptographic puzzles. In src/validation.cpp:

```
cpp
copy code
```

```
void DistributeReward(const AITask& task, const CBlock& block) {
    // Example reward logic: miners receive rewards based on task completion
    if (task.IsComplete()) {
        CAmount reward = CalculateReward(task.task_difficulty);
        block.vtx[0].vout[0].nValue += reward;  // Add reward to the coinbase transaction
    }
}


CAmount CalculateReward(uint64_t difficulty) {
    // Calculate reward based on task difficulty (similar to traditional PoW reward based on block difficulty)
    return BASE_REWARD * difficulty / DEFAULT_DIFFICULTY; // Placeholder formula
}
```

Step 3: Update Blockchain Protocol and Communication

We need to modify the network protocol to handle AI task broadcasting, receiving, and verifying. This requires changes in src/net_processing.cpp to propagate AI tasks across nodes.

Step 4: Test and Deploy

Once the above modifications are implemented, thoroughly test the system to ensure security, performance, and decentralization. You will need to:

- **Set up test networks** to verify the blockchain's functionality.
- **Test AI task submission, processing, and reward distribution**.
- **Implement safeguards** to prevent centralization and attacks on the AI task marketplace.

Step 5: Deploy and Launch Forked Blockchain

Deploy your forked blockchain by setting up nodes, miners, and a decentralized AI task marketplace. Provide miners with access to AI processing hardware (e.g., GPUs, TPUs) for task completion.

Conclusion

This source code outline provides the foundation for replacing Bitcoin's Proof of Work (PoW) consensus with **Proof of Useful Work (PoUW)**, enabling miners to contribute AI computation tasks in a decentralized manner. The real-world implementation would require extensive AI computation libraries (like TensorFlow, PyTorch) and a robust network for verifying tasks in a decentralized, secure, and scalable way.

Marketing Plan

Executive Summary

The goal of this marketing plan is to introduce a fork of Bitcoin that replaces the traditional Proof of Work (PoW) with Proof of Useful Work (PoUW). The new blockchain will use the computational power of the decentralized network to perform AI tasks (e.g., training machine learning models) rather than wasting electricity on cryptographic puzzles. This innovative consensus mechanism positions the new cryptocurrency as eco-friendly, productive, and technologically advanced.

By targeting AI developers, cryptocurrency enthusiasts, sustainability advocates, and enterprise users, we aim to drive adoption and establish this blockchain as a leader in the future of decentralized AI training.

Target Market

1. AI Developers and Researchers: AI engineers and researchers who need vast computational resources to train their models will benefit from decentralized, lower-cost, and accessible computation power.
2. Cryptocurrency Enthusiasts: Crypto investors and miners looking for more sustainable and productive alternatives to traditional Bitcoin mining.
3. Enterprises and Institutions: Businesses and research institutions with growing AI processing needs who want to use a decentralized, scalable network to supplement their data centers.
4. Sustainability Advocates: Environmentally conscious individuals and organizations who want to support a blockchain that reduces wasteful energy consumption and uses computational power for meaningful work.

Unique Selling Proposition (USP)

1. Eco-Friendly Blockchain: Instead of wasting energy on meaningless computations, the new PoUW blockchain puts computational resources to good use by training AI models, contributing to advancements in machine

learning and data science.

2. Decentralized AI Training Network: Leverage the global network of miners to perform AI tasks, making AI research and development more accessible to developers and institutions that lack the hardware resources to train large models.
3. Cost-Efficient AI Computation: Offer lower-cost AI processing for enterprises and developers by using decentralized computational resources, which removes the need for expensive data centers.
4. Community-Driven Growth: Encourage a vibrant community of miners and developers who can contribute to the blockchain while also benefiting from AI training rewards, fostering a new, purpose-driven blockchain ecosystem.

Marketing Goals

1. Increase Awareness: Establish brand presence in both the AI and cryptocurrency communities by promoting the benefits of PoUW.
2. Educate the Market: Highlight the differences between traditional PoW and PoUW, focusing on the energy savings and productivity advantages.
3. Drive Adoption: Attract developers, miners, and enterprises to join the network by showcasing the tangible benefits of participating in a decentralized AI training platform.
4. Build Partnerships: Secure collaborations with AI companies, research institutions, and hardware manufacturers to strengthen the platform's credibility and utility.

Marketing Strategies

1. Community and Developer Engagement

Objective: Build a strong community of developers, miners, and AI experts who believe in the future of decentralized AI.

- Developer Incentives: Offer rewards, grants, and tokens for developers contributing to the PoUW platform by writing code, improving security, or integrating AI frameworks like TensorFlow or PyTorch.
- Hackathons and Competitions: Organize AI-focused hackathons and coding competitions to foster innovation, demonstrating how PoUW can be used to efficiently train AI models on the blockchain.
- Developer Documentation & Tutorials: Create detailed technical documentation, GitHub repositories, and tutorials on how to build decentralized AI applications on the PoUW blockchain.
- Developer Communities: Engage with blockchain and AI developer communities via GitHub, Discord, Reddit, StackOverflow, and Telegram to encourage discussions and gather feedback.

2. Digital Campaigns

Objective: Drive awareness and educate potential users about the benefits of PoUW over PoW.

- Educational Content: Develop a series of blog posts, infographics, and explainer videos comparing traditional Bitcoin mining with the energy-efficient PoUW. Highlight the real-world applications of using decentralized AI computation (e.g., scientific research, autonomous driving, natural language processing).
- Social Media Campaigns: Leverage Twitter, LinkedIn, Reddit, and YouTube to promote the platform's eco-friendly and productive nature. Use targeted advertising to reach crypto enthusiasts and AI professionals.

- Partnership with Influencers: Collaborate with key influencers in the cryptocurrency and AI communities to generate interest. Influencers can help communicate the project's value to a wider audience and build credibility.
- Crowdfunding & Token Sales: Launch an Initial Coin Offering (ICO) or Token Sale, allowing early adopters to participate. Promote this through crypto forums, newsletters, and paid ads.

3. Industry Partnerships

Objective: Establish strategic partnerships with AI companies, GPU manufacturers, and research institutions to drive adoption.

- AI Companies: Partner with AI companies to integrate their models and tasks into the network, enabling developers to contribute useful work directly.
- GPU Manufacturers: Collaborate with GPU companies like NVIDIA and AMD to build hardware solutions optimized for AI processing on the decentralized network.
- Research Institutions: Partner with universities and research labs that require large-scale AI processing resources but are limited by the high costs of traditional computing infrastructure.

4. Sustainability and Green Tech Campaigns

Objective: Position PoUW as a solution for reducing the environmental impact of blockchain technology.

- Environmental Impact Reports: Publish reports showing the energy savings and reduced carbon footprint of PoUW compared to traditional PoW-based blockchains like Bitcoin and Ethereum.
- Partnership with Green Initiatives: Align with green energy initiatives and sustainability-focused blockchain projects. Sponsor events that focus on sustainability in tech and innovation.

- Green Certification: Seek certifications or recognitions from environmental groups to further legitimize PoUW as an eco-friendly technology.

5. Media and Public Relations

Objective: Generate media coverage to spread the word about the benefits of a decentralized AI training blockchain.

- Press Releases: Issue regular press releases to cryptocurrency, AI, and tech media outlets covering major milestones such as partnerships, product launches, and community growth.
- Media Coverage: Reach out to journalists and media outlets in the AI, sustainability, and cryptocurrency space to feature the innovative approach of PoUW.
- Podcasts and Webinars: Appear on popular blockchain, AI, and tech podcasts to discuss how the PoUW network can revolutionize both blockchain technology and AI computation.

Key Performance Indicators (KPIs)

1. Community Growth: Measure the number of active developers, miners, and AI enthusiasts contributing to the network.
2. Network Adoption: Track the number of AI tasks processed, nodes participating, and transactions verified on the PoUW blockchain.
3. Partnerships Established: Monitor the number of key partnerships with AI companies, hardware manufacturers, and research institutions.
4. Energy Savings: Publish data showing energy savings and compare it with traditional PoW blockchains to validate PoUW's environmental impact.
5. Token Price and Market Capitalization: Monitor the price and market capitalization of the token after the ICO and public launch.

Budget Overview

1. Community Engagement: $50,000 (developer grants, hackathons, community building)
2. Digital Marketing: $100,000 (content creation, social media, paid ads)
3. Partnerships & Events: $150,000 (partnerships, conferences, green initiatives)
4. Media & PR: $50,000 (press releases, media outreach, podcast appearances)

Conclusion

By focusing on the eco-friendly, productive benefits of using PoUW for AI training, this marketing plan will help establish the forked Bitcoin blockchain as a leading platform for decentralized AI processing. With strong community support, targeted partnerships, and a focus on sustainability, the PoUW network will stand out as an innovative solution for the future of both blockchain and AI.

Financial Plan

Year 1 Goals

- Launch BLC with PoUW and a decentralized AI Task Marketplace.
- Establish a base of 100+ miners and 50+ AI task providers.
- Target **$500,000 in revenue** from task submission fees, transaction fees, and premium prioritization services.

Years 2-5 Goals

- Increase miner and task provider participation by 50% each year.
- Diversify revenue through premium services, consulting, and partnerships.
- Achieve profitability by Year 3, expanding the service to new markets and optimizing AI processing capabilities.

Funding Requirements

Seed Funding: $1.5 million

- **Development**: $0.5 million allocated for building blockchain infrastructure, AI task processing, and verification algorithms.
- **Marketing & Community Outreach**: $0.5 million dedicated to educational and promotional initiatives to drive market adoption.
- **Operations & Compliance**: $0.5million for regulatory compliance, infrastructure maintenance, and customer support.

Risks and Mitigation

1. **High Competition**: Differentiate through sustainable mining benefits and meaningful AI contributions; prioritize partnerships with AI industries.
2. **Technical Complexity**: Focus on recruiting expert engineers and conducting rigorous testing to ensure system security and scalability.
3. **Regulatory Uncertainty**: Proactively engage with regulatory bodies to anticipate and address compliance requirements in blockchain and AI.

Conclusion

BLC's Proof-of-Useful-Work blockchain redefines traditional mining by repurposing computational power for AI tasks, balancing security, decentralization, and real-world utility. By integrating a decentralized AI task marketplace, BLC enables efficient, meaningful work, delivering social and environmental benefits. BLC positions itself at the intersection of blockchain innovation and AI development, setting industry standards for sustainable, purposeful technology.

Through ongoing advancements, strategic partnerships, and community engagement, BLC aims to become a leader in eco-friendly blockchain technology, providing measurable societal value and redefining the potential of decentralized networks.

Understanding concepts

A Proof-of-Useful-Work (PoUW) system leveraging AI training for transaction validation replaces the traditional Bitcoin Proof-of-Work (PoW) with a model where miners are incentivized through transaction fees for completing AI tasks instead of solving cryptographic puzzles.

How PoUW with AI Training Works:

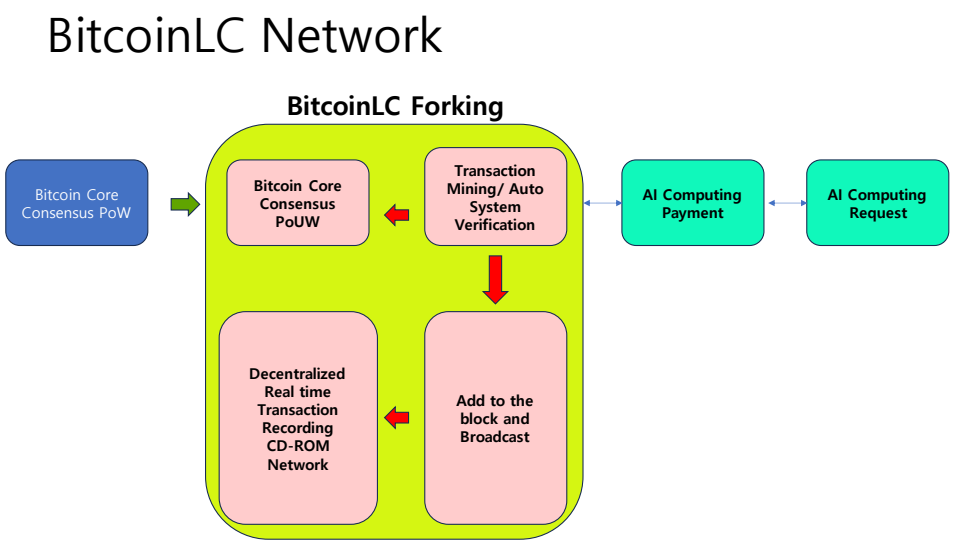
1. AI Task-Based Mining: In this model, miners perform AI-related computations, such as training machine learning models or processing large datasets, instead of solving cryptographic problems. These tasks could be derived from real-world needs, like image recognition, NLP (natural language processing), or data-driven analytics, producing meaningful results.
2. Task Submission and Validation: To participate, miners receive AI tasks through a decentralized marketplace. These tasks are broken down into smaller, verifiable units that miners compete to complete. Once a miner completes an AI task, the work is verified by the network using cryptographic methods such as zk-SNARKs, ensuring that the completed AI computation is accurate.
3. Reward System through Transaction Fees: Upon successful completion and verification of the AI tasks, miners are awarded transaction fees instead of block rewards. The transaction fees are collected from users who submit transactions on the network, similar to Bitcoin's transaction fee model. This makes the system self-sustaining and incentivizes miners to continuously process transactions.
4. Difficulty and Task Complexity Adjustment: Just as Bitcoin's PoW adjusts mining difficulty to control block times, the PoUW system dynamically adjusts AI task complexity based on network activity and processing capacity. This adjustment ensures that the system remains efficient and that new blocks are produced at a steady rate.

5. Environmental Efficiency: PoUW with AI training addresses environmental concerns by redirecting mining energy toward useful computational work. Instead of expending energy on cryptographic puzzles with no broader use, the network's computational power is put toward AI tasks that contribute to scientific research, industrial applications, or real-world challenges.

Benefits:

- Energy Efficiency: By eliminating energy-intensive hashing tasks, PoUW-based mining reduces environmental impact, aligning with green technology initiatives.
- Useful Output: The PoUW system contributes to advancements in AI and data science by generating valuable results from mining work, unlike traditional PoW where computational work does not produce a byproduct.
- Scalability and Adaptability: PoUW can adapt to varied AI task demands, supporting tasks of different complexities and serving industries with high computational needs, like finance, healthcare, and engineering.

In summary, PoUW with AI training utilizes miners' computational power for real-world applications while providing transaction fees as an incentive, merging blockchain security with meaningful, socially beneficial work. This framework holds the potential to maintain decentralization, security, and sustainability for a blockchain-based digital currency.



Why we're making this

Replacing Bitcoin's Proof-of-Work (PoW) with Proof-of-Useful-Work (PoUW) has become increasingly relevant due to significant environmental concerns surrounding the energy-intensive nature of traditional PoW mining. Here's a breakdown of the key arguments for transitioning to PoUW, using real-world data and considerations from environmental and policy perspectives.

1. High Electricity Consumption of Bitcoin's PoW Mining

- Electricity Demand: Bitcoin's PoW mining is designed to be computationally difficult, requiring significant energy to secure the network. Currently, Bitcoin's global energy consumption is estimated to be between 120–150 terawatt-hours (TWh) per year, roughly equivalent to that of entire nations like Argentina or Norway.
- Carbon Emissions: This electricity usage largely relies on fossil fuels, leading to annual carbon emissions ranging from 22 to 53 million metric tons. As a comparison, this is about the same carbon footprint as the entire country of Singapore, according to data from the Cambridge Centre for Alternative Finance.

2. Environmental Impact Concerns from Major Stakeholders

- Environmental Opposition: Environmentalists and policy-makers argue that Bitcoin's carbon footprint is unsustainable, especially as countries and industries work toward net-zero goals. The energy used by Bitcoin's PoW network can power millions of households and contributes significantly to global CO_2 emissions, undermining global sustainability efforts.
- UN and ESG Goals: The United Nations has highlighted the urgency of reducing energy waste and emissions as part of its Sustainable Development Goals (SDGs). Bitcoin's energy-intensive PoW system is seen as a contradiction to SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action). With increased scrutiny from the UN and the broader financial community on Environmental, Social, and Governance (ESG) compliance, Bitcoin's PoW mining is often criticized as an unsustainable and socially irresponsible practice.

3. Proof-of-Useful-Work (PoUW) as a Sustainable Alternative

- Redirection of Energy Usage: PoUW proposes redirecting energy used in mining toward useful, socially beneficial computational tasks, like training AI models or performing scientific research. This alternative system could turn the substantial energy demand into meaningful contributions for industries such as healthcare, climate modeling, and financial technology.
- Energy Efficiency and Public Good: PoUW tasks are designed to have real-world applicability, transforming mining energy into socially valuable outcomes. This model would maintain network security through competition but with computational work that benefits industries and promotes sustainable practices.
- Policy and Public Support: By reducing energy waste, PoUW would align Bitcoin mining more closely with environmental regulations and gain support from policymakers and environmental advocates. This transition would strengthen Bitcoin's resilience against regulatory pressures and attract eco-

conscious investors, as PoUW could support ESG-aligned blockchain projects.

4. Potential Resistance from Miners and Industry Transition Challenges

- Industry Pushback: Transitioning from PoW to PoUW would impact the investments many miners have made in specialized hardware (ASICs) that can only be used for PoW computations. Such a shift would require a new class of hardware (such as GPUs and TPUs for AI tasks) or upgrades to existing hardware, incurring costs and disrupting the existing mining ecosystem.
- Decentralization Concerns: Shifting to PoUW would also mean recalibrating how decentralization is maintained since PoUW-based tasks could vary in complexity and equipment requirements. Ensuring broad participation from diverse hardware setups would be crucial to maintain the decentralized ethos of Bitcoin.

5. Support for PoUW from Environmentalists and Financial Institutions

- Environmentalists' Endorsement: By addressing one of the main criticisms of Bitcoin—its massive energy consumption without tangible societal benefits—PoUW could garner substantial support from environmental groups, the UN, and advocates of sustainable technology.
- Institutional Investment Appeal: Major financial institutions increasingly prioritize green technology and sustainability in investment decisions. A transition to PoUW would enhance Bitcoin's ESG credentials, making it more appealing to investors interested in sustainable assets and enabling further mainstream adoption.

Solution Design

1. System level

Launching a Bitcoin fork BLC based on Proof-of-Useful-Work (PoUW) focused on AI processing requires a robust, multi-stage approach. Below is a system-level plan with specific stages to develop, test, and deploy the new Bitcoin fork effectively.

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1. Research and Development Phase

Objective: Develop and design the core PoUW mechanism, blockchain protocol modifications, and AI task integration.

1. **Consensus Mechanism Design**:
    - Develop the PoUW protocol to replace Bitcoin's traditional Proof-of-Work (PoW) with verifiable AI computations.
    - Define how AI tasks (such as model training, data analysis, etc.) will be structured, divided into units of work, and cryptographically verifiable.
    - Create a task standardization system to ensure fair task distribution across nodes.
2. **Blockchain Protocol Modification**:
    - Adapt the Bitcoin codebase to handle PoUW tasks as validation criteria for mining.
    - Adjust block generation timing based on task complexity and network computational power.
    - Implement smart contracts or task management algorithms to orchestrate the distribution, verification, and validation of AI tasks across the network.
3. **AI Task Marketplace Development**:
    - Build a decentralized AI task marketplace where task providers can submit jobs and miners can access them.

- Develop task-prioritization algorithms to balance high-demand AI tasks with blockchain performance requirements.
- Implement pricing models for task submission and miner rewards, taking task complexity and utility into account.

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2. Infrastructure and Hardware Preparation

Objective: Ensure sufficient computational infrastructure to support PoUW and optimize mining hardware compatibility.

1. **AI-Optimized Mining Hardware**:
   - Determine hardware requirements (e.g., GPUs, TPUs) suitable for processing AI tasks.
   - Partner with hardware manufacturers to encourage the development and distribution of AI-optimized mining hardware.
   - Offer guidelines and support for miners on configuring hardware to meet network requirements.
2. **Network Setup and Simulation**:
   - Set up a private testnet to simulate the blockchain and test PoUW performance under controlled conditions.
   - Evaluate how AI task processing affects latency, transaction speed, and blockchain security.
   - Run test scenarios with different task types (e.g., machine learning model training, NLP, image recognition) to ensure that the network can handle diverse AI tasks effectively.
3. **Energy-Efficiency Testing**:
   - Conduct energy consumption tests comparing PoW and PoUW with real hardware setups.
   - Compile data to support the network's energy efficiency, essential for addressing environmental concerns.

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3. Security and Verification Protocol Development

Objective: Create secure verification systems for AI task completion and data integrity.

1. **Cryptographic Verification**:
    - Develop and integrate zk-SNARKs or similar cryptographic proofs to verify AI task completion without exposing the data itself.
    - Test the verification protocol's ability to prevent fraudulent task completion while maintaining performance.
2. **Decentralized Task Validation**:
    - Implement a peer-to-peer task validation system where other nodes on the network verify task results, thereby maintaining consensus integrity.
    - Design protocols for dispute resolution, ensuring that if an AI task fails validation, it can be reassigned or corrected without compromising block validation.
3. **AI Task Complexity Adjustment Mechanism**:
    - Develop algorithms to dynamically adjust AI task complexity in response to network hash rate, ensuring consistent block time (similar to Bitcoin's difficulty adjustment).
    - Ensure that AI tasks are balanced in difficulty to match network capacity and hardware diversity.

4. Initial Coin Offering (ICO) and Community Engagement

Objective: Raise funds and establish a strong community for the Bitcoin PoUW fork.

1. **ICO and Token Distribution**:
    - Plan and execute an ICO or similar fundraising event, distributing tokens to early supporters and investors.
    - Use funds for continued development, partnerships, and marketing efforts.

2. **Developer and Miner Outreach**:
    - Create resources (documentation, SDKs, and APIs) for developers to build on the new network.
    - Engage the mining community, highlighting the benefits of PoUW and offering support for early miners.
3. **Community Building**:
    - Launch community forums, social media channels, and educational resources to inform potential users, miners, and developers about the network.
    - Organize events, webinars, and hackathons to encourage participation and foster adoption.

5. Testnet Deployment and Public Testing

Objective: Deploy a public testnet for real-world testing, allowing external validation and gathering community feedback.

1. **Testnet Deployment**:
    - Launch the public testnet, allowing miners and developers to test the PoUW system without impacting the main network.
    - Allow AI task providers to submit test jobs, enabling miners to simulate real-world AI processing on the testnet.
2. **Bug Bounties and Security Audits**:
    - Offer bug bounties and conduct security audits to identify vulnerabilities.
    - Perform multiple rounds of testing with feedback from developers, miners, and AI task providers.
3. **Performance Analysis**:
    - Monitor network performance metrics such as transaction throughput, block validation speed, and energy consumption.
    - Adjust protocols, task distribution, and hardware recommendations based on testnet performance data.

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6. Mainnet Launch

Objective: Officially launch the Bitcoin PoUW fork on the mainnet and begin operations with initial miners and task providers.

1. **Mainnet Activation**:
    - Deploy the mainnet with the PoUW consensus mechanism and all core functionalities.
    - Migrate initial ICO token holders and early testnet users to the mainnet.
2. **Onboarding Miners and AI Task Providers**:
    - Actively onboard miners with compatible hardware and provide setup support.
    - Invite AI task providers to begin submitting real tasks to the network and monitor task submission flows.
3. **Establishing Governance and Support**:
    - Implement governance protocols for decision-making on future network updates, adjustments, or improvements.
    - Set up ongoing support channels to assist miners, developers, and AI task providers.

7. Post-Launch Expansion and Optimization

Objective: Scale network participation, optimize performance, and address regulatory and community needs.

1. **Network Optimization**:
    - Refine the AI task complexity adjustment algorithm and task verification protocols based on initial mainnet data.
    - Increase block efficiency by optimizing AI task distribution and network latency handling.
2. **Scaling Partnerships and Adoption**:
    - Establish partnerships with AI companies and research institutions to increase task variety and demand on the network.

    - Launch marketing campaigns targeting developers, miners, and potential AI task providers to expand the user base.
3. **Environmental Impact Reporting**:
    - Regularly report on the network's energy savings and environmental benefits compared to traditional PoW.
    - Engage with environmental organizations and regulators to demonstrate the network's sustainability.

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8. Long-Term Evolution

Objective: Adapt and evolve the network with advancements in AI and blockchain technology.

1. **Research and Development of New AI Tasks**:
    - Continuously expand the range of AI tasks the network can handle, integrating new fields of AI research as they emerge.
2. **Upgrades and Protocol Refinements**:
    - Implement network updates to incorporate advances in cryptographic verification, hardware, and decentralized computing.
3. **Community and Ecosystem Growth**:
    - Foster an ecosystem of developers, miners, and AI task providers, supporting the creation of applications and tools built on the PoUW-based Bitcoin fork.

Through these stages, the Bitcoin PoUW fork will be positioned to lead as a secure, environmentally-friendly blockchain system with real-world utility in AI processing. This system plan will ensure a gradual, systematic approach from conceptualization to adoption, mitigating risks and ensuring network stability and sustainability

2. Components level

1. Blockchain Core Development

- **Consensus Mechanism Modification**:
    - Implement PoUW by modifying the Bitcoin PoW consensus protocol to accommodate AI processing as the mining mechanism.
    - Design a system that accepts AI tasks as valid "proof" for block validation, replacing the traditional cryptographic puzzle.
    - Include a task difficulty adjustment algorithm to maintain stable block times, similar to Bitcoin's hash rate adjustment.
- **AI Task Verification**:
    - Develop cryptographic proofs (such as zk-SNARKs) to verify the integrity and accuracy of AI tasks completed by miners.
    - Ensure verifiability and repeatability of AI computations without compromising data privacy.
    - Create a "challenge-response" system where tasks can be cross-verified by other nodes in the network, ensuring consensus.
- **Smart Contract Integration**:
    - Incorporate a task scheduling and payment system using smart contracts.
    - Set up contracts for task listing, task verification, and payment distribution to incentivize miners based on task completion and complexity.

2. Decentralized AI Task Marketplace

- **Task Listing and Allocation System**:
    - Build a decentralized marketplace where AI task providers can list

tasks, specify task requirements (e.g., GPU, TPU), and set rewards for miners.

    - Design a matching system that pairs available mining nodes with compatible AI tasks based on hardware capabilities and network demand.

- **Task Standardization**:
    - Define standardized task formats for various AI applications (e.g., TensorFlow, PyTorch, image recognition, language processing).
    - Develop guidelines for task providers to submit tasks that can be distributed into verifiable units for mining purposes.
- **Incentive Mechanism**:
    - Establish a dynamic fee structure for listing tasks on the marketplace, providing a revenue stream to sustain the platform.
    - Create a "priority listing" option for urgent or high-value AI tasks, generating additional revenue and incentivizing more active miners.

3. Hardware and Software Optimization

- **AI-Optimized Mining Nodes**:
    - Support a range of hardware options, including GPUs, TPUs, and emerging AI processing chips to expand miner accessibility.
    - Develop open-source mining software optimized for AI computation, ensuring miners can easily connect to the network and process tasks effectively.
- **Energy-Efficient Processing Protocols**:
    - Focus on energy-efficient protocols within the AI tasks to minimize environmental impact.

    - Ensure the mining software is configured to optimize electricity use by dynamically adjusting computation intensity based on network demand.

- **Hardware Accessibility Program**:
    - Collaborate with hardware vendors to offer discounted or pre-configured AI mining rigs, making the network more accessible to a diverse miner base.

4. Security and Decentralization

- **Anti-Centralization Protocols**:
    - Design task distribution and reward protocols to prevent concentration of AI processing in a small number of miners.
    - Use hardware diversity requirements or randomized task assignments to avoid centralization risks.
- **Data Security and Privacy**:
    - Incorporate secure, private data handling protocols to ensure sensitive AI training data remains private and secure throughout the mining process.
    - Integrate data encryption and secure data transfer protocols to prevent unauthorized access to task data.
- **Consensus Security**:
    - Perform regular security audits and stress tests to identify and address vulnerabilities in the PoUW consensus mechanism.
    - Develop a response protocol for consensus attacks, such as Sybil or 51% attacks, ensuring the network's resilience.

5. Community and Developer Ecosystem

- **Open Source Repository**:
    - Release the core components of the PoUW blockchain on an open-source platform like GitHub, enabling community-driven development and transparency.
    - Encourage contributions, bug reports, and feedback from developers.
- **Incentivized Testnet**:
    - Launch a testnet where miners and developers can experiment with the PoUW mechanism, AI task processing, and marketplace functions.
    - Offer rewards for testnet participants to encourage early adopters and allow fine-tuning of the system before the mainnet launch.
- **Developer Documentation and SDKs**:
    - Provide comprehensive documentation and Software Development Kits (SDKs) for developers, task providers, and miners to integrate with and build on the platform.
    - Host hackathons or workshops to build developer interest and expand the PoUW ecosystem.

6. Legal and Regulatory Compliance

- **Compliance Analysis**:
    - Work with legal experts to ensure compliance with regulations related to cryptocurrency, AI data processing, and environmental standards.
    - Consider potential regulations around AI data privacy and obtain necessary permissions for data processing.
- **Environmental Reporting**:
    - Develop an environmental impact report to counteract potential opposition from environmental groups, demonstrating the lower

energy footprint of PoUW compared to traditional PoW.

    - Engage with environmental organizations to validate the project's eco-friendly approach and establish transparency.

- **Intellectual Property (IP) Protections**:
    - Secure patents or trademarks for core PoUW technologies, ensuring the network's unique position in the AI processing and blockchain spaces.
    - Protect proprietary components of the PoUW system to prevent unauthorized replication.

7. Marketing and Community Outreach

- **Awareness Campaigns**:
    - Launch campaigns to educate both the blockchain and AI communities about the benefits of PoUW and the environmentally sustainable AI-powered mining.
    - Leverage partnerships with prominent AI firms and blockchain influencers to increase visibility.
- **Green Initiative Partnerships**:
    - Partner with environmental organizations and green tech firms to advocate for PoUW's sustainability and reduced energy consumption.
    - Emphasize the benefits of AI-focused processing for real-world applications, such as climate modeling and medical research.
- **User Acquisition Programs**:
    - Offer initial incentives for early miners and AI task providers, such as reduced fees or increased rewards for task completion.
    - Develop a referral program to encourage user adoption and expand

the network's ecosystem.

8. Financial Model and Revenue Streams

- **Transaction and Task Fees**:
    - Charge fees for AI task listing, priority task placement, and network transactions to sustain revenue.
- **Strategic Partnerships**:
    - Collaborate with AI companies and research institutions to increase demand for PoUW tasks, creating additional value for the blockchain.
    - Offer tailored solutions or consulting for high-demand clients, providing recurring revenue.
- **Tokenomics Design**:
    - Structure a native token with a carefully designed inflation model to balance miner incentives and platform sustainability.
    - Implement staking or reward mechanisms for long-term ecosystem growth and investor appeal.

Timeline

- **Months 1-3**: Core development of PoUW consensus, decentralized marketplace architecture, and initial security measures.
- **Months 4-6**: Launch testnet, onboard test miners, optimize hardware configurations, and begin community outreach.
- **Months 7-9**: Complete regulatory preparations, partner outreach, and finalize documentation and SDKs.
- **Months 10-12**: Mainnet launch, early miner incentives, and continued ecosystem and community development.

Launching this Bitcoin fork with PoUW for AI processing requires intensive development, community support, and clear differentiation in the blockchain ecosystem. By highlighting the eco-friendliness and real-world utility of AI-based mining, this project aims to transform Bitcoin mining's energy profile while providing meaningful computational output.

3. Implementation Level

1. Planning and Feasibility Study

- **Goal**: Assess technical, economic, and regulatory feasibility.
- **Tasks**:
    - Conduct a market analysis on AI and blockchain intersections.
    - Identify computational AI tasks compatible with PoUW (e.g., machine learning model training, data processing).
    - Assess energy requirements and potential environmental benefits versus traditional Proof-of-Work (PoW).
    - Compile a list of stakeholders, including AI researchers, developers, and environmental advocates.

2. Fork Design and Technical Specification

- **Goal**: Outline the technical changes required to adapt Bitcoin's PoW to PoUW.
- **Tasks**:
    - Modify Bitcoin's consensus mechanism to allow validation based on AI tasks rather than cryptographic puzzles.
    - Define the structure and parameters for task validation, including:
        - **Task Marketplace**: Design a decentralized marketplace where AI tasks are posted and miners select tasks based on difficulty and reward.

        - **Task Verification System**: Develop a cryptographic method (such as zk-SNARKs) to ensure AI task validity.
        - **Difficulty Adjustment**: Implement a dynamic AI task difficulty adjustment algorithm to control block time (e.g., aim for 10-minute intervals).
        - **AI Hardware Integration**: Ensure compatibility with GPUs, TPUs, and possibly ASICs, optimizing hardware use for AI tasks.
- **Output**: A comprehensive white paper with the modified consensus algorithm, system architecture, security model, and reward structure.

3. Development of the PoUW Protocol

- **Goal**: Code and integrate PoUW into the existing Bitcoin codebase.
- **Tasks**:
    - Build the PoUW consensus mechanism in a testnet environment, replacing traditional PoW code with AI task validation.
    - Develop the decentralized AI task marketplace protocol for submitting and distributing AI tasks.
    - Integrate cryptographic proofs for AI task verification.
    - Implement a reward distribution model where miners earn based on AI task completion, complexity, and quality.
    - Conduct continuous testing to refine task difficulty adjustment, ensuring smooth block generation times.
- **Output**: A functional testnet with PoUW and marketplace capabilities.

4. Testnet Launch and Community Engagement

- **Goal**: Deploy a testnet for developers, miners, and users to test PoUW functionality.
- **Tasks**:
    - Set up a testnet with the PoUW fork, allowing users to join and test AI task processing.

    - Engage the community by providing tutorials, demo walkthroughs, and bug bounty programs to identify and resolve issues.
    - Gather miner feedback on the PoUW mechanism, especially concerning hardware requirements and reward fairness.
- **Output**: A stable and reliable testnet with active miner participation and preliminary feedback for improvements.

5. Decentralized AI Task Marketplace and Partnerships

- **Goal**: Establish partnerships with AI research organizations and developers to supply tasks to the marketplace.
- **Tasks**:
    - Develop API and SDK tools for seamless integration of AI tasks into the marketplace.
    - Partner with AI firms, academic institutions, and data scientists to provide a steady supply of AI tasks.
    - Build an incentivization structure that rewards task providers based on demand and complexity.
- **Output**: An active marketplace with verified AI tasks and a growing base of contributors.

6. Final Testing and Security Audits

- **Goal**: Conduct thorough security and stress tests on PoUW and marketplace functionality.
- **Tasks**:
    - Perform audits on the consensus mechanism, focusing on the task verification process to prevent fraudulent or incorrect task completion.
    - Implement stress testing for high transaction volumes and simultaneous task completions.
    - Perform an energy consumption analysis to validate that PoUW offers a greener alternative to PoW.

- **Output**: Audit reports and optimized final codebase, confirming robustness and energy efficiency.

7. Mainnet Launch

- **Goal**: Deploy PoUW fork on a public mainnet.
- **Tasks**:
    - Announce a mainnet launch date with clear instructions on node setup, task submission, and wallet compatibility.
    - Coordinate with existing Bitcoin exchanges to consider listing the PoUW forked coin.
    - Launch support channels for mainnet participants, addressing technical and mining-related queries.
- **Output**: Live PoUW-based blockchain with active miners and a functioning AI marketplace.

8. Ongoing Support and Ecosystem Development

- **Goal**: Provide continuous support, updates, and growth initiatives.
- **Tasks**:
    - Develop educational content, webinars, and community forums for onboarding new miners and task providers.
    - Launch ecosystem grants to encourage developers to build tools, applications, and integrations for the new blockchain.
    - Regularly update the protocol based on community feedback, technological advancements, and emerging AI needs.
- **Output**: A growing community of developers, miners, and task providers, creating a sustainable and scalable PoUW ecosystem.

This roadmap sets a foundation for a sustainable, PoUW-powered blockchain capable of transforming Bitcoin mining by aligning its processing power with real-world AI needs. With ongoing community and institutional engagement, the PoUW fork could redefine energy-efficient blockchain mining for the future.

References

Understanding TON concept

Credits

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Or plainly spoken - this is a very complex piece of software which targets a bleeding-edge, experimental smart contract runtime. Mistakes happen, and no matter how hard you try and whether you pay someone to audit it, it may eat your tokens, set your printer on fire or startle your cat.

Cryptocurrencies are a high-risk investment, no matter how fancy.