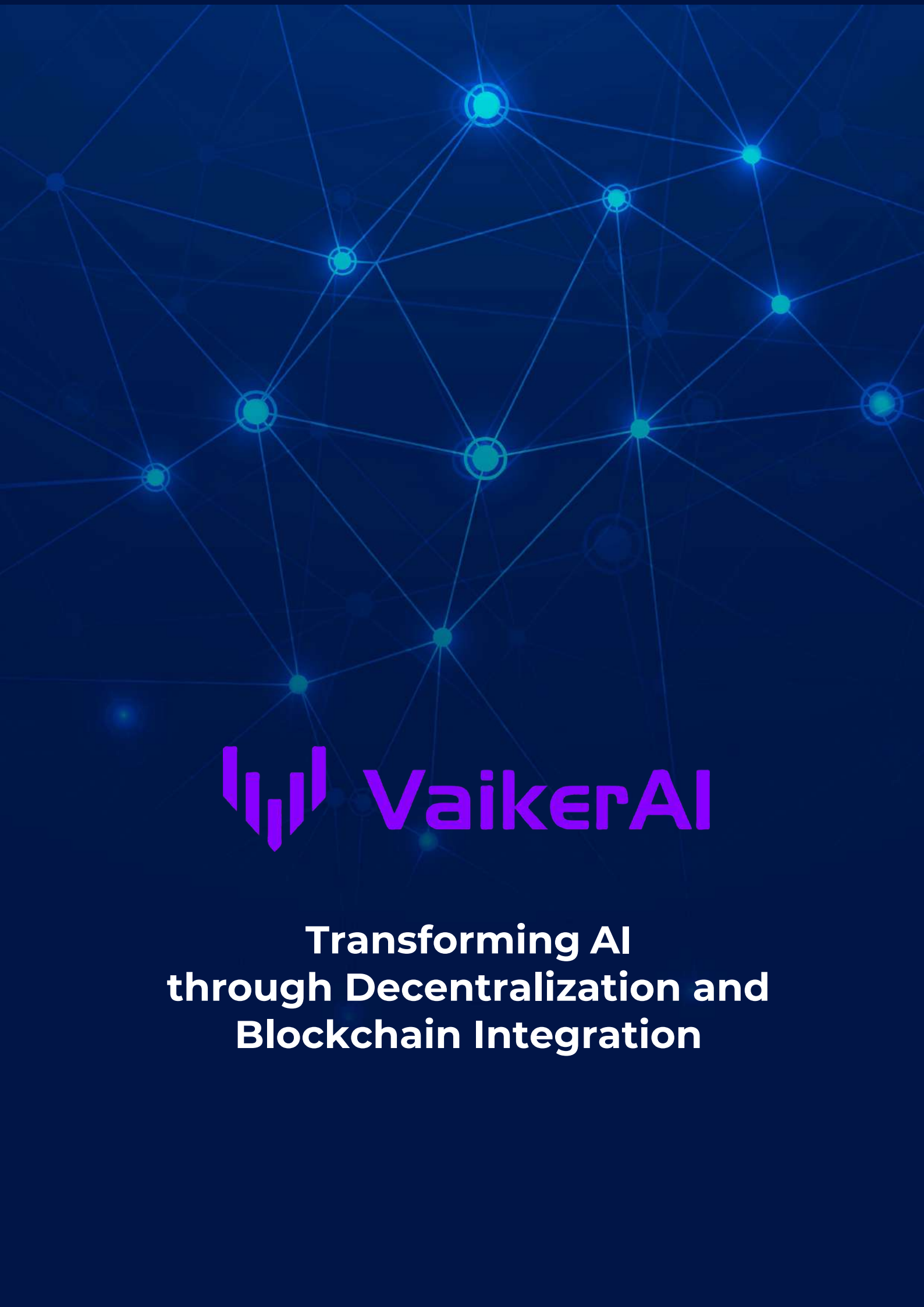

Transforming AI through Decentralization and Blockchain Integration

VaikerAI disrupts centralized computing, leveraging blockchain and distributed technologies to enhance scalability, security, and transparency in AI model execution on decentralized networks, exploring innovative training methods and addressing challenges for collaborative and resilient decentralized AI.

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ABSTRACT

Let's explore the revolutionary impact of VaikerAI in the realm of decentralized ecosystems. In a world where centralized computing holds sway, VaikerAI disrupts the norm, revolutionizing the execution and management of AI models. We dive into the seamless integration of VaikerAI algorithms with decentralized technologies, harnessing the power of blockchain and distributed computing. The focus is on how this shift enhances scalability, security, and transparency when running AI models on decentralized networks.

Our journey unfolds innovative methods for training and deploying AI models across a distributed ledger, creating a collaborative and resilient environment. We dissect how decentralization influences model performance, factoring in elements like consensus mechanisms and data privacy. This exploration doesn't shy away from addressing the challenges and opportunities embedded in decentralized AI, offering valuable insights to overcome bottlenecks and optimize resource utilization.

Backed by a series of hands-on experiments and compelling case studies, we showcase the practicality and efficiency of deploying AI models in a decentralized ecosystem. These findings not only contribute to the ongoing conversation about the fusion of AI and decentralized technologies but also lay out a roadmap for future breakthroughs in this dynamic field. This exploration expands our grasp of VaikerAI in a decentralized context and provides actionable insights for building robust and scalable AI systems in the age of distributed computing.

PROBLEM

Centralized Artificial Intelligence Models

One glaring issue with current centralized AI models lies in their vulnerability and lack of robustness. Centralization concentrates immense computing power and sensitive data within a specific entity or server. This setup makes these models susceptible to single points of failure, security breaches, and unauthorized access. Furthermore, the centralized nature limits scalability, as the burden on a singular system grows exponentially with the increasing demand for AI services. This centralized control not only poses risks to data privacy but also raises concerns about potential biases ingrained in the models, as the training data tends to be sourced from specific regions or demographics.

SOLUTION

Decentralized AI Models and Blockchain Integration

To address these challenges, a decentralized AI model running on multiple machines across the world, connected via blockchain technology, emerges as a promising solution. Decentralization distributes the computational load, ensuring that no single point is crucial for the model's functionality. This mitigates the risk of system-wide failures and enhances overall system resilience. By leveraging a global network of machines, the AI model can access diverse datasets, reducing the risk of bias and enhancing the model's adaptability to various scenarios.

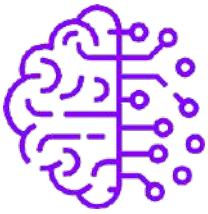
The integration of blockchain technology provides a secure and transparent framework for managing decentralized AI systems. Blockchain ensures the integrity of the training and inference processes by creating an immutable ledger of transactions. Smart contracts can be employed to govern access rights, ensuring that only authorized nodes contribute to the model's training and validation. This not only enhances security but also establishes a trustless environment where participants can collaborate without relying on a central authority. The decentralized and blockchain integrated approach not only addresses the vulnerabilities of centralized AI models but also promotes a more transparent, resilient, and globally collaborative AI ecosystem.

VALUE PROPOSITION

VaikerAI Token (VAIK) is set to revolutionize the landscape of AI model development and utilization, ushering in a new era of accessibility and innovation for users across the spectrum. By leveraging VaikerAI, the intricate tasks of running and training AI models will become seamlessly streamlined. The token's capabilities extend to facilitating the distribution and processing of sophisticated GPU-based AI jobs across a decentralized network. This transformative approach ensures that the transactional aspects of AI model management are not only simplified but also made more efficient for end users.

Beyond its fundamental functionalities, the VaikerAI Network is poised to become a hub of comprehensive resources. It will encompass a repository of popular open-source AI models, augmenting its utility by offering APIs that can be seamlessly integrated into any third-party application. This expansive ecosystem paves the way for a collaborative paradigm, as VaikerAI envisions evolving to incorporate crowd-sourced Artificial Intelligent Projects. This ambitious expansion is set to catalyze the emergence of a dynamic marketplace where AI enthusiasts and innovators can secure funding for their ideas, models, and applications. The result is a vibrant and accessible platform that empowers anyone to explore and harness the potential of artificial intelligence.

WHAT ARE AI MODELS?

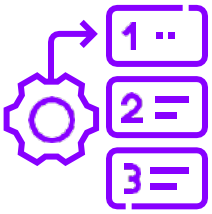


Running AI Models

AI models are computational systems designed to simulate human intelligence and perform specific tasks without explicit programming. They are built using machine learning techniques, where algorithms learn patterns and make predictions from data. One prominent type of AI model is the neural network, inspired by the human brain's structure. Neural networks consist of interconnected nodes that process information in layers, learning to recognize complex patterns through training on large datasets.

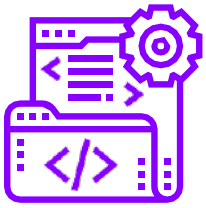
These models excel in various applications, from image and speech recognition to natural language processing. Common types include convolutional neural networks (CNNs) for image analysis, recurrent neural networks (RNNs) for sequential data, and transformers for language tasks. AI models often require massive amounts of data for training, and their performance improves with more diverse and representative datasets.

As technology advances, AI models like GPT-3 (Generative Pre-trained Transformer 3) have gained attention for their ability to generate coherent and contextually relevant text. However, ethical considerations, biases, and the need for responsible AI development remain critical aspects in harnessing the power of these models for positive impact.



Conventional Steps to deploy AI models

Decide where you want to deploy your model. Common options include cloud platforms like AWS, Azure, or Google Cloud, on- premises servers, or edge devices. Package your model and its dependencies into a container using tools like Docker. This ensures consistency and easy deployment across different environments. Serialize your trained model into a format suitable for deployment, such as TensorFlow SavedModel, ONNX, or a custom format compatible with your chosen deployment platform. Create an API (Application Programming Interface) to expose your model's predictions. This could be a RESTful API, GraphQL, or another suitable interface. Consider the scalability requirements of your application. Ensure that your deployment can handle varying workloads and user demands efficiently. Implement security measures to protect your deployed model and the data it processes. Use encryption, authentication, and authorization mechanisms as needed.



Decentralized AI model Training and Deployment

Decentralized AI model deployment involves distributing the computational workload and decision-making across a network of nodes rather than relying on a centralized server. This paradigm shift brings about several challenges and opportunities. One of the key aspects is the distribution of the model itself. Instead of a single server hosting the model, copies are deployed across multiple nodes, enabling parallel processing, and reducing latency.

Decentralized environments leverage blockchain technology to manage the distribution and consensus mechanisms. Smart contracts, self-executing contracts with the terms directly written into code, can facilitate the governance of AI models across the network. These contracts define rules for model updates, access permissions, and incentivize node participation in the deployment process.

Interoperability is crucial in a decentralized AI deployment scenario. Models and frameworks need to be compatible with the diverse set of nodes in the network. This requires standardized protocols for communication and data exchange. Ensuring seamless interoperability fosters collaboration and integration of various AI models within the decentralized ecosystem.

Security is a paramount concern in decentralized environments. As models are distributed across nodes, ensuring the confidentiality and integrity of sensitive data becomes challenging. Encryption, secure multi-

party computation, and privacy- preserving techniques are employed to safeguard information during both training and deployment phases. Smart contract auditing and robust access control mechanisms further enhance security.

Scalability is a significant advantage of decentralized AI deployment. With a distributed network, the system can easily scale horizontally by adding more nodes. This not only enhances the overall computational power but also provides a more fault- tolerant and resilient infrastructure. Decentralized deployment allows for adaptive scaling based on the demand for AI services.

Decentralized governance models play a pivotal role in decision-making processes related to AI models. Nodes in the network may collectively decide on model updates, data sharing policies, and other critical aspects through consensus mechanisms. This democratized governance structure ensures that decisions are not concentrated in the hands of a few entities, promoting transparency and fairness.

In conclusion, decentralized AI model deployment involves a paradigm shift from centralized architectures to distributed and collaborative frameworks. Leveraging blockchain, ensuring interoperability, addressing security concerns, embracing scalability, and establishing decentralized governance are key components in navigating the complexities of deploying AI models in a decentralized environment. This approach holds the potential to create more inclusive, secure, and resilient AI ecosystems.

VAIKERAI DEX MODEL DEPLOYMENT

VaikerAI is at the forefront of leveraging widely used open-source AI models by providing accessible APIs for users eager to integrate AI solutions into their projects. In its ongoing initiative, VaikerAI is actively developing solutions tailored for individuals in possession of Nvidia GPUs, ensuring compatibility with diverse GPU configurations. This innovative approach empowers users to effortlessly deploy and run AI models specifically optimized for their Nvidia GPUs, ushering in a new era of seamless and efficient AI implementation for a broader spectrum of enthusiasts and professionals alike.

VAIKERAI DATA FLOW

In the context of this data flow, let's consider an illustrative scenario involving a text-to-video generation task. The user initiates the video generation process by invoking VaikerAI APIs, receiving an immediate response containing a set of parameters and URLs for monitoring the status of their request.

VaikerAI seamlessly integrates this task into the queue within the DEX framework. The GPU nodes, continuously synchronized with the DEX framework, monitor the queue for new tasks. Upon detection of a new task, an available GPU node undertakes the processing, subsequently updating the task's status within the DEX framework.

Concurrently, the user has the option to query the status APIs received in the initial step to obtain real-time updates on the progress of their tasks. Once the task reaches completion, the user can showcase the results on their product website or application. To enhance user notification capabilities, we offer Webhooks as triggers, providing timely updates to users when their submitted tasks are successfully concluded.

VALUE OF VAIKERAI TOKEN

VaikerAI token serves as the currency for every request made, ensuring a seamless transaction process. The pricing structure for each task is intricately tailored to reflect the time required for processing. It's important to note that certain models exclusively operate on robust GPUs, such as the Nvidia Tesla T100 80GB, resulting in higher associated costs compared to models running on more compact GPUs like the Nvidia Tesla T4 16GB. To provide utmost transparency, a comprehensive breakdown of pricing details will be readily available for each model, enabling users to make informed decisions based on their specific requirements.

INCENTIVIZE NODES TO BENEFIT THE NETWORK

As the popularity and demand for the VaikerAI Token continue to soar, it becomes increasingly crucial to establish a robust system for assessing the competence and dependability of users operating GPU Nodes. Simultaneously, there is a need to assign distinct rankings to users who are actively seeking jobs within the network. These rankings will play a pivotal role in incentivizing and aligning the interests of all stakeholders involved, fostering a seamless and efficient operation of the network. This comprehensive evaluation framework aims to ensure the optimal performance and reliability of the entire ecosystem.

USERS RUNNING THE GPU NODES

Each user leveraging GPU Nodes will be allocated a numerical ranking within the dynamic scale of 0 to 100, reflecting their performance and engagement. To kickstart this ranking adventure, users commence with a baseline value of 50. As tasks are executed successfully, the user's ranking ascends, influenced by a nuanced interplay of factors such as the intricacy and duration of the undertaken tasks, coupled with the computational might of the GPU. Conversely, if a task meets an unfortunate fate of non-completion, the user's ranking takes a dip. The degree of decline is intricately tied to a 30-day rolling average, scrutinizing the percentage of completed jobs against the total jobs attempted—a comprehensive metric encapsulating the user's reliability and consistency over time.

USER REQUESTING API'S TO RUN MODELS OR TRAINING

The determination of a user's position in the queue is intricately linked to their assigned rank, which functions as a pivotal criterion in establishing priority. This ranking is methodically computed through a weighted average, considering two essential factors:

- 75% is attributed to the cumulative 60-day volume of VaikerAI token usage.
- 25% is derived from the quantity of VaikerAI tokens present in the user's wallet on the platform.

While the likelihood of encountering a backlog in the queue is minimal, the user ranking system assumes a crucial role as a decisive tiebreaker in specific scenarios. To illustrate, consider a scenario where there are 5 Tesla A100 GPUs available for model training, and two users simultaneously necessitate the deployment of all 5 GPUs for their respective training jobs. User A, a recent addition to the network lacking any historical record of model training job requests, is juxtaposed with User B—an established user with a consistent record of daily training job requests on the ORC Network. In the absence of other distinguishing factors, User B would be accorded precedence based on their superior rank, thereby exemplifying the utility of the user ranking system in resolving such situations.

FRUAD DETECTION ON VAIKERAI

Numerous robust systems are in place to safeguard against fraudulent activities, encompassing a combination of both on-chain and off-chain processes. Let's delve into a scenario to illustrate this intricate web of security measures. Imagine Jason submits a task to be executed within the network. Now, Katie takes on the responsibility, but here's the twist—she contemplates using a different model than the one Jason originally paid for. The ingenious system doesn't leave room for such deceptive maneuvers. It facilitates the continuous transmission of progress updates and model logs, providing Jason with real-time insights into the processing of his task. This transparency, coupled with the wealth of information stored in the smart contract, erects a formidable barrier against any attempts to manipulate the model or deviate from the agreed-upon job specifications. In essence, attempting to circumvent the system would not only jeopardize Katie's reputation but also render it nearly impossible to deceive Jason or default on the commitment made in the job "agreement."

The transaction processing within the system is contingent upon the meticulous fulfillment of the job requirements as initially specified in the transaction agreement, facilitated seamlessly through the implementation of smart contracts. These smart contracts serve as the digital backbone, ensuring that every aspect of the task is comprehensively executed before triggering the transaction. Beyond this, the network incorporates a set of covert features designed to meticulously verify the completion of jobs. These intricately woven features, deliberately kept confidential, act as an additional layer of security to safeguard against any attempts by individuals seeking to exploit or manipulate the system. By maintaining the confidentiality of these verification mechanisms, we fortify the integrity of the system and uphold a robust defense against potential malfeasance.

VAIKERAI TOKEN ROADMAP

Phase I: Post Token Sale (Q3 2024)

Let's delve a bit deeper into the exciting realm of cloud services and blockchain integration for the app.vaikerai.com website. Start the journey by activating cloud services on our platform, enabling seamless token exchanges for API calls. These transactions will be meticulously recorded and facilitated through the robust infrastructure of blockchain technology, ensuring transparency and security. Initially, VaikerAI will take the reins, managing these services via our dedicated servers. This strategic move lays the groundwork for a smooth transition into the innovative Users Nodes framework, heralding a new era in handling API calls with utmost reliability.

Phase II: Development Process & Users Node Transition (Q4 2024):

Our project involves the development of cutting-edge container-based software designed explicitly for running machine learning tasks integrated with blockchain technology. Users equipped with Nvidia-based GPUs will have the opportunity to effortlessly deploy our specialized containers, enabling them to seamlessly manage VaikerAI API requests. The entire transactional process will be executed through a secure blockchain network, with a choice between the robust Polygon or Solana Network for transaction verification.

Furthermore, we are committed to establishing a comprehensive infrastructure that supports Multi-GPU setups and distributed training for model optimization. This means users can leverage our extensive GPU network to train their AI models efficiently. What's more, individuals with GPU-enabled User Nodes can actively participate in the training process, fostering a collaborative and dynamic environment within our network.

Phase III: The Ultimate Vision (TBD):

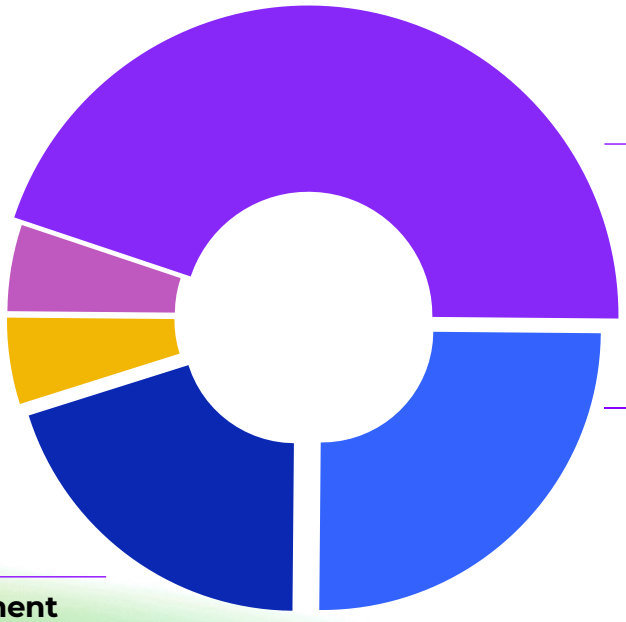
Once the blockchain network is meticulously set up and operating seamlessly, our dedicated focus will shift towards unleashing the inherent value and untapped potential embedded within the API's processed through the VaikerAI network. Our strategic roadmap involves the onboarding of diverse entities, ranging from websites offering AI services to mobile application developers specializing in image and video generation, as well as AI chat functionalities providers. These onboarded applications will seamlessly integrate with and harness the capabilities of our APIs. Our ambitious target is to reach an extensive user base of 10 million by the culmination of the year 2024.

In addition to our consumer-oriented approach, we are forging partnerships with corporate giants to seamlessly implement our APIs within their platforms, amplifying the reach and impact of our technology. As we pave the way forward, our endeavors extend beyond the current framework. We are actively engaged in developing novel AI models, augmenting our training processes, and enhancing our framework with exclusive features. Anticipate a series of detailed insights into these advancements through forthcoming written posts and comprehensive documentation.

TOKENOMICS

VAIK will be launched in May 2024 through an Initial Coin Offering (ICO) on VaikerAI Website. VAIK has a max supply of 1,000,000,000. Of this max, the VaikerAI team divided VAIK tokens for Node Providers & Community (45%), Investors (25%), Research & Development (20%), Team & Advisors (5%) and Ecosystem (5%). The allocated research and development funds will be utilized for conducting research and constructing bespoke models tailored to address targeted markets. Additionally, a portion of the funds will be allocated to the retraining of specific models for image and video generation, enhancing their performance beyond that of open-source models.

1,000,000,000
MAX SUPPLY



45%
Node Providers & Community

25%
Investors

20%
Research & Development

5%
Team & Advisor

5%
Ecosystem

USE OF FUNDS FROM INITIAL COIN OFFERING - ICO

For this vision and product development, we are looking to raise $2 million dollars by selling 100M VAIK coins. This will be enough to cover the costs outlined in the Use of Funds section (below) and will enable us to build the robust ecosystem needed to support the dynamic framework that we have envisioned for the future of this project. Thus, we aim to use proceeds from the Token sale to facilitate our goals outlined in the roadmap process below, as well as fund supplemental development for the future of the VaikerAI Token and building decentralized GPU's Network.

50%

Will go to future development of each expansion phase (I-III) and will support the team dedicated to the operations and engineering of the VaikerAI Token platform.

20%

Running, maintaining, and scaling the network - this will include developing and creating new and more efficient solutions for handling API's requests through AI Models running on decentralized GPU solutions.

20%

Will be allocated to marketing and expanding the applications and reach and use-cases of the network.

5%

For people who are going to deploy our solutions on their Nvidia GPU's.

5%

For unforeseen roadblocks and circumstances


VaikerAI