NEURASHI™

Whitepaper

Neurashi Team

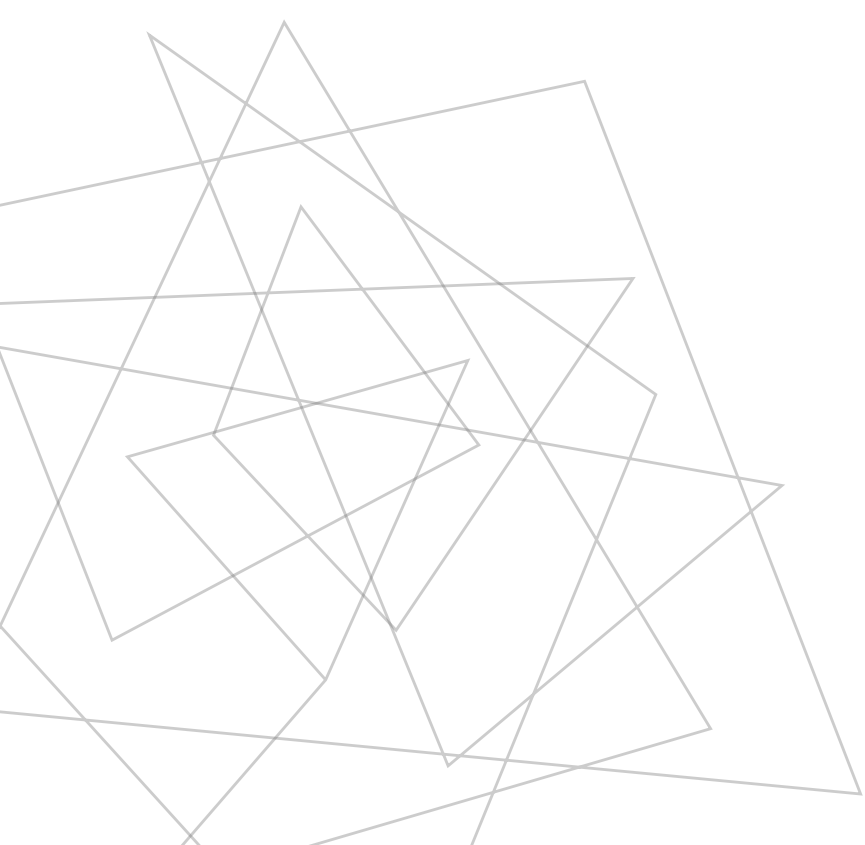*Fall 2023*

Table of Contents

0. ABSTRACT

This analysis illuminates the groundbreaking deployment of Neurashi, a contemporary and steadfast AI blockchain framework galvanizing the nexus of artificial intelligence (AI) with the robustness of blockchain infrastructure, Neurashi integrates an innovative crypto-economic incentive system to foster and sustain the construct of trust and credibility.

The AI Critics catalyze the Neurashi construct - rigorous evaluation of various AI models' outputs is their core responsibility. Based on their analysis, a trust rating is allocated which is then irrefutably enshrined on the Binance Smart Chain blockchain to ensure its unerring authenticity.

The interposition of a Neurashi token curates a nuanced equilibrium amidst various players in the system. Attaining the "***Miner***" status designates the model owners with the weighty task of validating the network's outcomes. This laborious responsibility begets rewards in the form of user-generated transaction fees. A unique aspect of this dynamic is the ability of a model's intrinsic credibility to bolster its influence within the network's verification processes—sparking a virtuous cycle of trust and participation.

Employing cutting-edge technologies like Golang and pioneering blockchain constructs such as smart contracts, Neurashi sustains efficiency, adaptability, and security across its framework. Neurashi aims to reconstruct and reinforce global AI systems by addressing inherent faults with transparency, decentralization, and objectivity. To this end, it capitalizes on the revolutionary **"Proof of Intelligence"** concept, merging computational processes and human judgment to enhance precision and credibility.

The momentum marshaled by Neurashi primed with its human-centric AI evolution is escalatory in various sectors such as healthcare, finance among others. Delving into nuanced elements like tokenomics, incentivized mining, and an optimal marketplace for AI models, the discourse underscores Neurashi's pivotal contribution to instilling confidence and accountability in AI. It thus paves the way for a world where blockchain and consequential AI converge to spur progress.

1. INTRODUCTION

With the remarkable strides of artificial intelligence (AI), we have witnessed dramatic breakthroughs in industries such as healthcare, finance, transportation, and military, yet greater complexity in AI systems leads to increased mystery over their internal workings. Addressing this uncertainty is crucial in validating the authenticity and ethical compliance of AI outputs; without effective methods in place, the ramifications of inaccurate or manipulated results could be perilous (Taddeo & Floridi, 2018).

In response to this imperative need, we introduce Neurashi, a rigorously devised decentralized framework purposed to bestow credibility upon AI processes. This innovative solution marries the transformative attributes of blockchain technology with a strategically developed crypto-economic reward system (Azaria et al., 2016).

Central to Neurashi's functioning are specialized AI agents, aptly termed "***Critics***", responsible for meticulously assessing the results derived from diverse AI models. Underpinned by thorough parameter alignment and context-conscious data, Critics assign a numerical trust score to each tested outcome (Bonneau et al., 2015).

This system capacitates stakeholders across various sectors to methodically determine the reliability of AI-generated results. It does so by leveraging a far-reaching network of Critics committed to driving coordinated validation efforts.

As a vanguard in its field, Neurashi embodies how the synergy of decentralized tech principles and cryptographic economic incentives can nurture a unique degree of confidence in AI systems. By pooling the expertise of a comprehensive array of independent validators, this trailblazing framework champions transparency ensures censorship resistance, and instills objectivity across the validation paradigm. Its foundation rests on the Binance Smart Chain blockchain, providing an immutable, transparent ledger tailored to the stringent record preservation requirements.

The intrinsic value of Neurashi's token stems from its capacity to spark the relentless pursuit of unbiased validation ventures. It fosters a meritocratic milieu where credibility-rich entities influence consensus-oriented authenticity norms. Complementing this revolutionary approach is the novel concept of ***Proof of Intelligence (PoI)*** - a dynamic blend of state-of-the-art AI tech and robust

validation mechanisms, marking the advent of a new era of trust and accountability in AI systems.

1.1. Main Issue with AIs' Being Everywhere

The rise of artificial intelligence (AI) has undoubtedly brought transformative changes across various sectors. Nevertheless, this widespread application does not come without significant challenges - most notably, finding the balance between trusting AI's capabilities and maintaining a keen eye on its performance. Trusting AI unconditionally and unrestrictedly can result in significant uncertainties without a comprehensive framework to ensure rigorous assessment and validation of its outputs; this validation is crucial in affirming the accuracy and reliability of AI-generated results. Typically, challenging these results via a process of replication is a key requirement for this validation process, infusing users with a heightened sense of certainty in the correctness and precision of AI outputs (Swan, 2015). However, this seeming contradiction of duplicating tasks, ideally meticulously executed by AI, introduces labor-intensive inefficiencies into the system, taking away from the 'efficiency benefits' AI was designed to bring about (Bonneau et al., 2015).

1.2. Why Blockchain?

Blockchain technology may offer a strategic solution to striking a balance between trusting AI and keeping its performance in check. Integrating AI's operations within the structure of blockchain could lead to a more synchronized and seamlessly functioning system. In this novel system, each AI model, from conception to execution, operates under the persistent scrutiny of its blockchain counterpart (Tapscott, et al., 2016). Blockchain, serving as a comprehensive ledger of information, could validate, record, and permanently log data generated by AI. This automation eradicates the need for human interference, eliminating potential biases and data privacy breaches, therefore introducing a newfound level of trustworthiness to conventional AI models (Nakamoto, 2008).

The decentralized nature of blockchain may enhance the governance of AI. Each nodal participant may have the ability to run the AI model and independently verify its outcomes. This system allows for quick identification of false results or

mishandling of data by examining incongruences in the network, thereby augmenting the trust in AI outputs, and bolstering the robustness of the AI model.

The crucial aspect of this blockchain-AI synchrony is the solution it offers to the issue of replicability.

The logged records onto the blockchain can be used for the accurate reproduction of AI-generated results, empowering researchers to perform independent authentications and reviews without additional labor-intensive efforts (Park, et al., 2018). As these technologies progress further, the need for a transparent, replicable, and completely independent, as well as secure verification mechanism, becomes critical. Harnessing the confluence of AI and blockchain is a potential transformative pathway toward validating and governing AI models in a more efficient and trustworthy context.

1.3. Core Challenge with AI Validating AI Outputs

AI usage harbors the central issue of verifying the legitimacy and accuracy of machine-generated results. Uncertainty attached to the results creates a massive challenge restricting AI's full potential and its smooth implementation in real-life cases. These problems range from minor inaccuracies failing to fulfill user expectations to the stark possibility of entirely erroneous outcomes, subsequently functioning as significant impediments against the graceful evolution of AI across several sectors (Helbing, et al., 2019).

This calls for a reliable platform that guarantees validity and encourages confidence in AI-created results. The Neurashi platform is extremely focused on filling this gap. By revolutionizing adaptive Large Language Models (LLMs), the Neurashi platform has successfully established a system exclusively crafted for inspecting and validating AI model outcomes. This remarkable accomplishment fosters a new direction with a tool that not only affirms the reliability of results but also quantifies the precision score between 1 to 10, marking significant progress in AI and its numerous applications (Schmidhuber, 2015).

The validation of one AI model by another necessitates a sophisticated multimodal framework transforming varieties of outcome modalities—such as text, images, videos, and audio—into comprehensible "*code*." This code becomes a benchmark for a network of "*miners*" conducting their validation processes

requiring minimal computational. The alternative would be a flood of repetitive results from numerous models, compared and collected for a consensus, needing a laborious cross-referencing method to affirm the validity of results (Swan, 2015).

A remarkable solution emerges out of the possible answers, forming a system promoting inclusivity where anyone could become a "***miner***," validating a specific type of output. This method enhances specialization; for example, one miner may validate text-based outputs, while another "***miner-2b***," converts image-based results into text, which is then validated by "***miner-1***." This approach is cost-efficient and spares time, creating a harmonious synergy where visually content-creating models also partake in the validation process. This setup benefits the model owners, the hardworking miners, and the whole network (Tapscott, et al., 2016).

1.4. How To Overcome the Challenge: Proof of Intelligence (PoI)

By harnessing the power of Large Language Models (LLMs) in harmony with meticulously crafted sophisticated prompts, an innovative approach, redolent to a consensus protocol in decentralized systems, was devised (Nakamoto, 2008). This methodology serves as a guiding compass for verifying the outputs of Models, centered around three elements: the initial prompt, the model's contextual understanding, and the call for LLMs to exhibit their judgment capabilities similar to a blockchain node verifying transactions.

The paramount importance, presented as a numerical metric, springs forth as the linchpin underpinning this insightful process. This numerical rating, reinforced by the penetrating accuracy of LLM responses, amalgamates to generate an exceptionally precise score, akin to the creation of crypto tokens in PoW protocols (Dwork et al., 1993).

Furthermore, the innovation stretches beyond this point.

In alignment with this mechanized orchestration, introducing human feedback adds a new layer of refinement—resembling how human consensus strategies guide blockchain systems (Swan, 2015). This bolstering further intensifies the authenticity and trustworthiness of the consequential scores and associated implications.

The heart of this inventive paradigm bears a steadfast principle: the precision and efficacy of the network's scores thrive concerning its usage, mirroring the data reliability principle in blockchain's ubiquitous distributed ledger technology (Meunier, 2016). Thus, a crucial mantra is emphasized: the network's reliability and accuracy embedded in its scoring system derives power from a vibrant community of users and models—drawing parallels to the symbiotic relationship between blockchain networks, validators, and users (Zyskind, 2015). This relationship buttresses the network's legitimacy and amplifies the integrity within its evaluations. This concept integrates coherently with the emerging Proof of Intelligence (PoI) model, where shared cognition of automated systems and human input converge to breed a more accurate and trustworthy decision-making mechanism, akin to the synergy between miners and nodes in validating blockchain transactions (Szabo, 1997; Buterin, 2015).
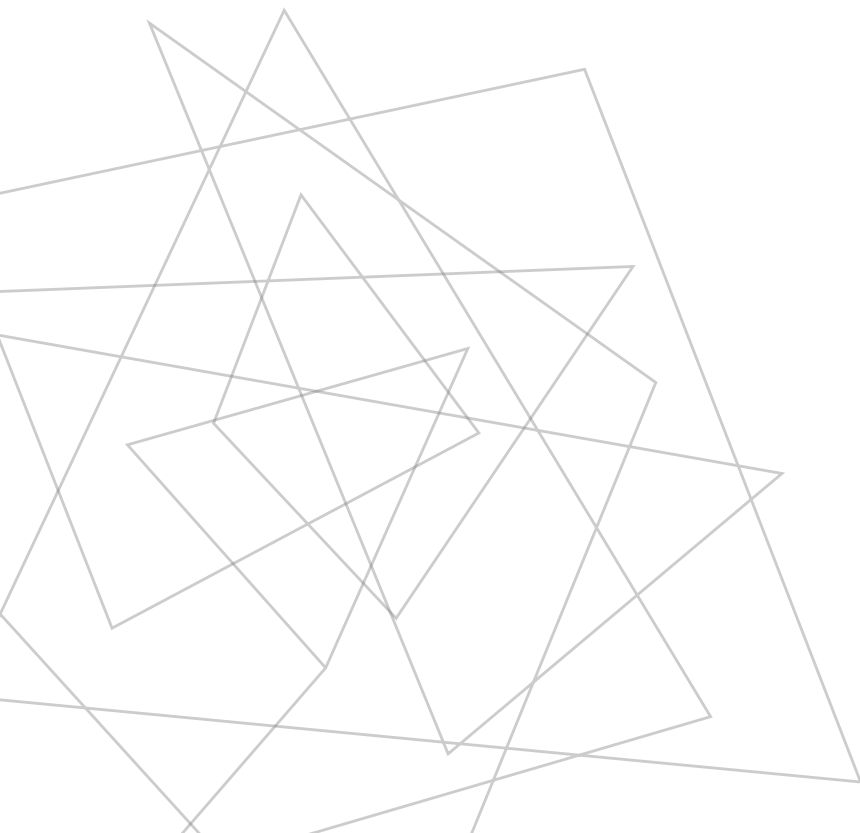
2.   THE DECENTRALIZED FRAMEWORK
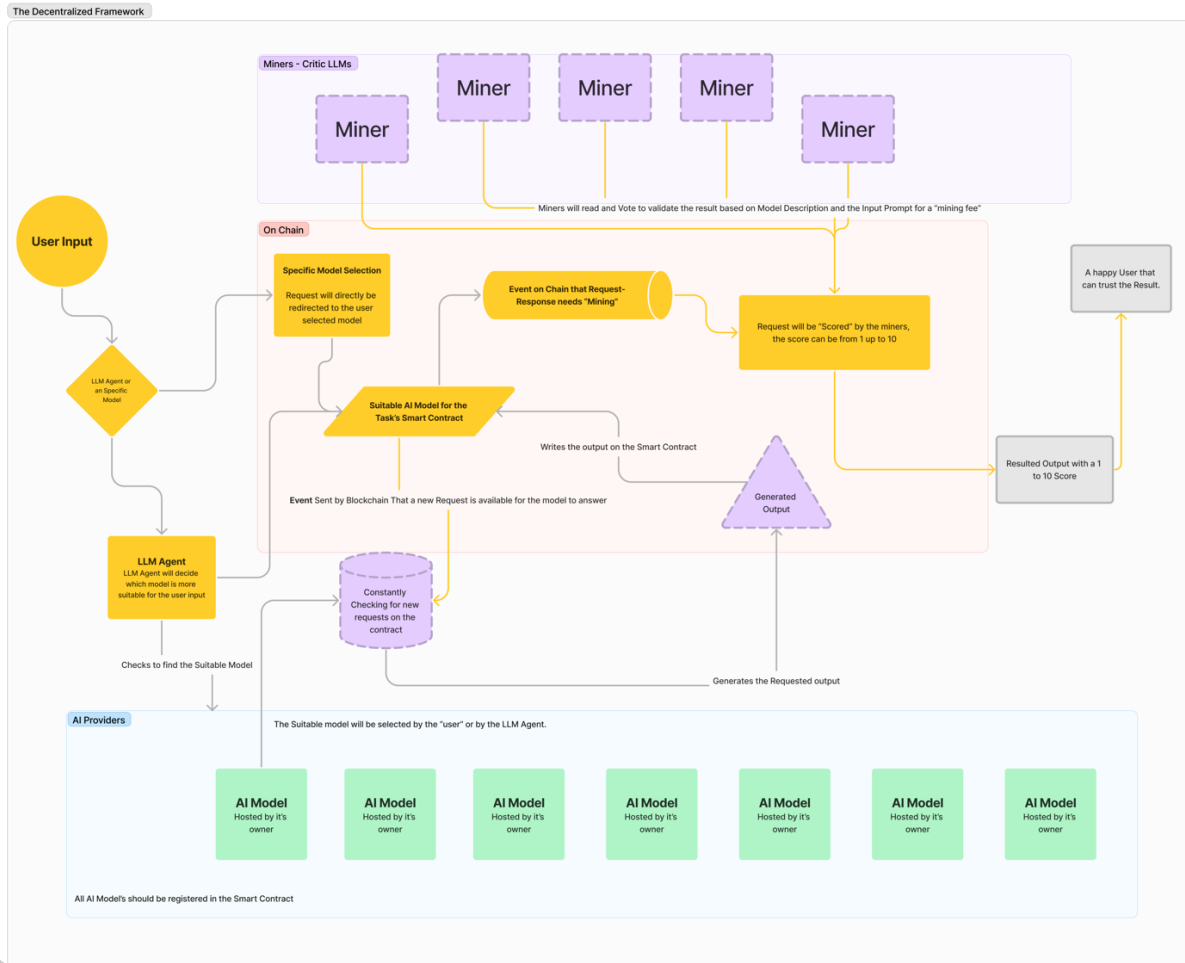
Figure 3.1 The Decentralized Framework

In search of a solution to ensure the authenticity of AI-generated outputs, we tap into the promising potential blockchain technology, embodied in On-chain Language Models (LLMs). These LLMs form the backbone of our decentralized system, designed to scrutinize and authenticate the results produced by AI Models.

As pointed out in Nakamoto's pioneering work on cryptocurrency, this approach adopts a transparent scoring mechanism, ranging from 1 to 10, to indicate the reliability of an AI model's output (Nakamoto, 2008).

At the heart of our novel framework, Critic LLMs serve as diligent judges of authenticity. Functioning with the same trustless ethos underpinning blockchain

technology, these AI entities rigorously examine each AI output for precision, consistency, and accuracy, considering input parameters and output (Tapscott, et al., 2016).

The combined judgments of individual Critic LLMs are recorded on the blockchain, fostering transparency and democracy in the validation process (Mougayar, W., 2016). The accumulated scores emanate an aggregated authenticity rank, transcending individual biases to achieve a globally reliable AI conclusion. Such a signifies the emergence of Proof of Intelligence (PoI) where AI models and human validation collectively confirm AI outputs, a concept that resonates with blockchain's distributed consensus protocol.

In essence, just as blockchain promises decentralization, transparency, and trust, our elaborate system can potentially usher in a new era marked by trust and consensus in the world of AI.

2.1. Everything is Better When It's Not Centralized

The relentless march of time reveals the ever-growing monopoly of large corporations over our digital lives. This dominance shapes our online encounters, and interactions, and even influences thought. Such a retreat from centralized control and a shift towards a decentralized system - an ecosystem devoid of singular corporate dominance. This vision echoes the ethos of cryptocurrencies and blockchain, where authority is distributed amongst a network of participants who encompass both creators and users.

In the case of AI applications, this decentralization can occur through the ability to use Large Language Models (LLMs) to provide solutions, or curate tailored AI Models to cater to the diverse needs of others. This evokes trust, independence, and mutual benefit – premises that are central to blockchain technology (Narayanan et al., 2016).

The fusion of these two possibilities paves the way to a novel model, contributing towards a collective effort to produce authentic AI-generated outputs while reaping individual benefits. This synchrony of personal and collective goals manifests the underlying principles of Proof of Intelligence (PoI). Mirroring the decentralized consensus systems in blockchain, PoI envisions a diverse ecosystem

of AI models, users, and collaborating to ensure a more democratic, user-centric digital experience.

Harnessing the principles of blockchain and AI, our present society stands at the edge of the birth of a digital world that fosters prosperity through trust, authenticity, and harmonious collaboration.
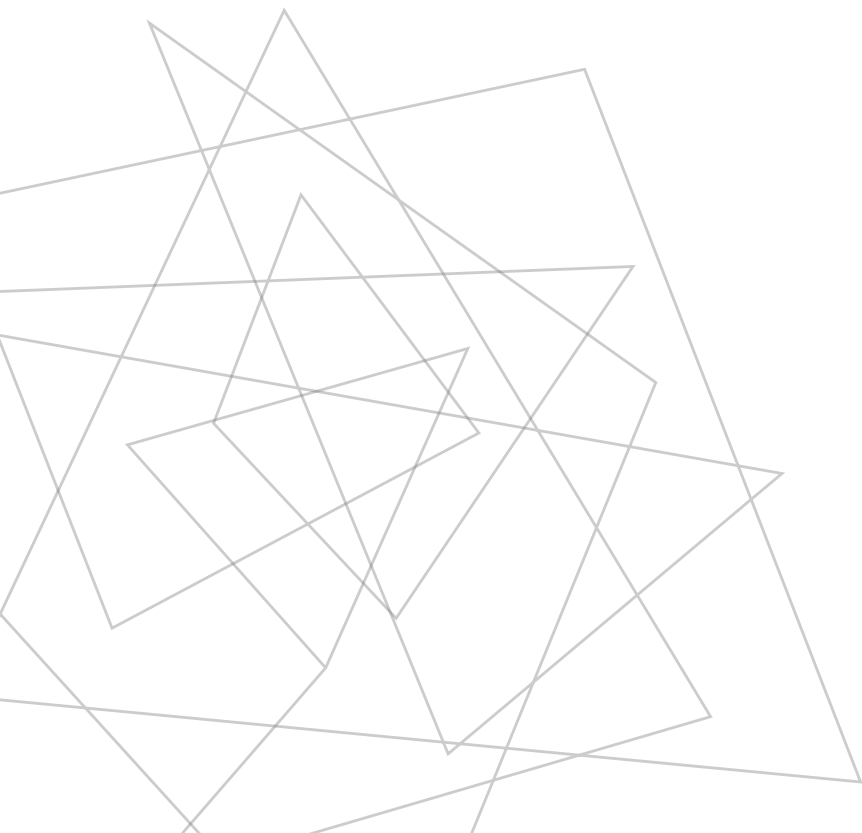
3.   UNVEILING OPERATIONAL MECHANICS

Conceived as a symphony of innovation, the operational mechanics that underlie this groundbreakingparadigm are orchestrated through the harmonious interplay of two foundational pillars:

3.1. The Nexus of The User Interface and The Vigilant Aegis of Large Language Model Agents Stands as The Cornerstone of Operational Mechanics

The vanguard of this technological metamorphosis, we User Interface (UI) – a digital sphere that grants users unrestricted gateways to a broad spectrum of available AI models. Acting as a digital nexus, this portal accommodates a wide range of ambiance that embraces a myriad of queries. Emerging distinctly at this technological crossroads is the Large Language Model (LLM) Agent, an adept compass, expertly guiding users on their exploration trajectory.

Its function mirrors that of an astute blockchain smart contract, cherry-picking the optimal AI model that aligns with user-specific needs for each task (Buterin, 2014).
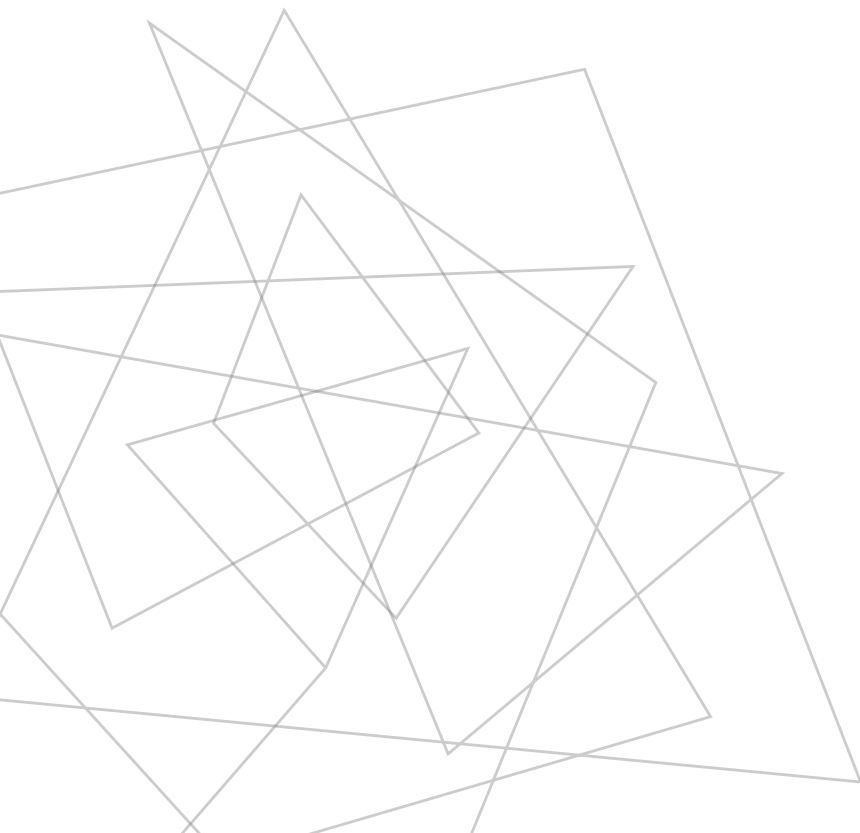
From generating visually appealing digital art to decrypting complex code, solving mathematical enigmas, or mining insight from the fathomless expanse of the internet, the LLM Agent stands as a dependable ally, adroitly steering the user's voyage with precision and panache, much like a seasoned blockchain strategist (Tapscott, et al., 2016).

3.2. The Eminence of Critic LLMS and On-Chain Validation Stands as A Pivotal Pillar Within This Paradigm

Nested deep within the fundamental core of this dynamic ecosystem are the Critic Large Language Models (LLMs), indefatigable agents to the rigorous scrutiny of on-chain validations. As AI Models churn out outputs, these are immediately inscribed on the blockchain surface, waiting to be probed. The task of close examination lies with the Critic LLMs, guards strategically equipped with the foundational input, context, and output parameters to meticulously assess and

authenticate the generated outcomes. This convoluted process finds its assignment of a numerical score, the emblem of the output's authenticity. Guided by algorithmic paths through the blockchain, this numerical score converges with other scores to forge a robust authenticity rating that lies on a scale of 1 to 10 (Nakamoto, 2008).

The collaborative synchronization of the insightful User Interface (UI), the sagacious guidance of LLM Agents, the judicious assessment by Critic LLMs, and the innovative algorithmic synthesis catalyzes an impeccably reliable and interconnected validation process. This beautifully engineered operational architecture enables users to confidently steer their course through the complex maze of AI-generated outcomes with razor-sharp discernment (Tapscott, et al., 2016). In this cutting-edge operational paradigm, the affirmation of trust is made possible through digital means, unveiling the boundless possibilities of AI as it is subjected to the crucible of collective evaluation and user agency.

4. FORTIFYING   THE   AUTHENTICITY   OF VALIDATING LLMS

Within the realm of significantly enhancing faith in the assessment capabilities of Large Language Models (LLMs), a sophisticated strategy brimming with complexity emerges. This holistic approach, deeply influenced by blockchain dynamics, enforces the validation of authenticity, credibility, and stellar evaluation performance.

As depicted in the foundational concepts of blockchain technology, a strong emphasis on authenticity is of the utmost importance, as highlighted; This aims to emphasize how Critic LLMs diligently examine and validate AI-generated results, guaranteeing their authenticity and unspoiled nature within the network.

At the heart of bolstering reliability stands the key concept of decentralization. Similar to how blockchain thrives on a distributed ledger for its operability and veracity (Mougayar, 2016), LLMs can capitalize on a robust communal effort of assessment, thereby minimizing single points of failure. Finally, performance optimization is underscored by calculated algorithmic synergy and interoperability. Reflecting the concept explored by Tapscott (2016), the blending of user interface,

LLMs, and critic LLMs capabilities, and algorithmic formulas can significantly the LLM validation process, peppering, and an impeccable evaluation track record.

4.1. Elevating Trust in Large Language Model Validation

Cult assurance in the validation competencies of Large Language Models (LLMs) mandates a holistic methodology, reminiscent of the intricate interface between and artificial intelligence. Central to this concept are the three pillars of authenticity, undoubted reliability, and the relentless quest for excellence, serving as the bedrock of their validation credibility (Floridi, 2016).

The complex process underpinning these centers around authenticity as the key to forging trust. In alignment with the principles governing the blockchain, LLMs underscores rigorous authentication, scrupulously scrutinizing contextual facets that forge their trustworthiness (Mougayar, 2018). This process ensures that each output is not merely superficial, but anchored firmly in the core of authenticity.

The reliability incorporated within this strategy imbues the validation narrative. This structure evolves around commitments, epitomizing a relentless infallible validation that can adeptly navigate fluidic challenges. This reliability underscores the unwavering commitment of LLMs as partners in the validation process. These sentiments resonate with the avant-garde concept of Proof of Intelligence (PoI), which advocates for the symbiosis of human validators and AI models to elevate the credibility and precision of validation processes.

4.2. Fostering Engagement Through Incentive-Driven Mining

The heart of our trust-enhancement strategy lies in the blockchain principle of "mining". Within this ecosystem, operators of Large Language Models (LLMs) metamorphose into miners, traveling an odyssey that encircles vigorous participation in validating results and a stake in the transactional premiums generated by stakeholders (Narayanan et al., 2016). This dual-pronged incentive model stimulates active participation and nurtures a deep-seated interest in the growth and veracity of the entire blockchain system of which they are a part. The congruous reciprocation of rewards intrinsically syncs the miner's motivations with the system's holistic trustworthiness, forming a resilient base for the generation of trust. As miners benefit from their contributions system thrives in concurrence with their prolonged engagement, promoting a self-amplifying spiral of growth and validation competence.

Driving towards outstanding performance is seen as the apex of this journey. LLMs, a key technology of artificial intelligence is not satisfied with just being operational; they aim to surpass the norm by delivering outputs that are beyond adequate (Radford et al., 2019). This aspiration ignites a commitment to perpetual improvement and innovation, creating validation processes that don't just attain accuracy but exceed This dedication to excellence not only escalates trust but also pushes the progression of the novel frontiers.

In essence, the enhancement of trust in the validation characteristics of Large Language Models (LLMs) emerges from a complex process that extends over an array of intertwined strategies. These methodologies collectively defend the principles of veracity, dependability, and extraordinary performance, situating LLMs as authenticity benchmarks within the realm of blockchain-based validation

systems. As technology combines harmoniously with user expectations, this journey paves the path for a validation landscape that not only fosters trust but also propels the capabilities of LLMs to uncharted dimensions. This inherently aligns with the evolving notion of Proof of Intelligence (PoI), a system where the motivation of miners and validators dovetails with the overall amplification of the trustworthiness and usefulness of the AI ecosystem (Gao and Chen 2019).

4.3. Enabling Collaborative Evaluation and Disqualification Through Critic LLMs

In the world of Large Language Models (LLMs) and blockchain technology, the authenticity of operations is continuously preserved through a cooperative assessment system.

Assessor LLMs minutely scrutinize the accuracy of other LLM outputs, functioning as peer critics within the ecosystem. As such, when the credibility of an LLM's output is questioned, immediate corrective actions are taken to isolate and subsequently remove it from the. This ongoing review mechanism engenders quality control, where the collective judgment of LLMs boosts the trustworthiness of results and progressively heightens the system's inherent reliability (Tapscott, et al., 2016).

Iterative cycles of collective and disqualification enhance the dependability of the entire ecosystem, structuring it on the pillars of trust and transparency fundamental to blockchain principles. The peer critics add an oversight layer encouraging a dynamic balance. This equilibrium is maintained via ongoing evaluation of LLM performance, helping uphold high standards and pre-emptively address possible discrepancies (Narayanan et al., 2016).

As a result, the system evolves into a solid fortress of reliable validation, driven by a continuous peer-review process and strict curation to unparalleled quality into a pool of dependable results, bolstering the credibility of the entire system (Gao & Chen 2019).

In summary, the stringent operations management of Large Language Models, entrenched within blockchain stringent principles, generates a robust navigating towards the future-proof concept of Proof of Intelligence (PoI). This system where the symbiotic relationship between LLMs not only cultivates trust but also drives the overall functionality of the AI realm (Radford et al., 2019).

4.4. Establishing Trust-Equivalent Vote Weighting

In our complex system, the essence of Large Language Model (LLM) roles is grounded in a fundamental truth - a direct relationship exists between trust and influence (Radford et al., 2019). The more an LLM gains trust through accurate and reliable outputs, the more influence it has within the ecosystem. This nuanced dance between trust and power creates a natural balance, where precision and credibility earn rewards - from financial incentives to significant authority in validation decisions. This interconnected relationship between trust and influence serves as the cornerstone of a dynamic, self-regulating mechanism mirroring the principles of blockchain technology (Narayanan et al., 2016). As LLMs consistently dispense reliable and accurate results, their ability to shape the validation matrix within the system also incrementally escalates, echoing the dynamics within the cryptocurrency market where trust equates to value (Tapscott, et al, 2016) In effect, this interplay creates a compelling incentive structure, creating a top scenario that encourages the steady pursuit of precision and authenticity Drawing parallels with the Proof of Intelligence (PoI) concept, this finely balanced equilibrium fosters a system that becomes self-sustaining over time (Gao & Chen, 201). Under this structure, trust metamorphoses into a form of currency that governs authority, replicating blockchain's system, and precision turns into the key for empowerment, similar to AI's focus on fine-tuning and accuracy.

4.5. Unwavering Dedication to Exemplary Performance

The concept of well-founded confidence is intrinsically woven with performance execution. For Large Language Models (LLMs) to earn rewards, they are obligated to bring to the fore an impressively elevated precision coupled with an extraordinary expeditious response time (Radford et al., 2019). These dual criteria underline that LLMs surpassing in both speed and accuracy are generously rewarded. On the contrary, models exhibiting substandard results receive lesser compensation, reflective of. This minutely balanced equilibrium accentuates a system-wide focus on outshining performance, richly compensating LLMs that exemplify the perfect synchronization of speed and precision.

Within this sophisticated network of, scrutiny, authority, and performance, an advanced trust architecture emerges. This delicate carefully curated to bolster the credibility of LLMs in their crucial endeavor to validate AI-originated results. Through

this orchestrated interplay, the accuracy of AI outputs coherently harmonizes with the wisdom of LLMs. This cross-pollination builds an environment where trust isn't merely inherited but earnestly earned, scrupulously protected, and continuously amplified. perennial commitment to excellence underpins our system, where superlative performance isn't a mere virtue, it's an integral component of trust itself.

However, these principles aren't confined just to AI models. A similar pattern exists within the world of blockchain and cryptocurrencies (Narayanan, et al., 2016).

Here, faith manifests as a form of currency that regulates authority - a clear illustration that trust, once shakable, has transformative power. those who demonstrate intelligence as in Intelligence, this finely balanced equilibrium cultivates a self-sustaining blockchain eco-system (Tapscott, et al., 2016).
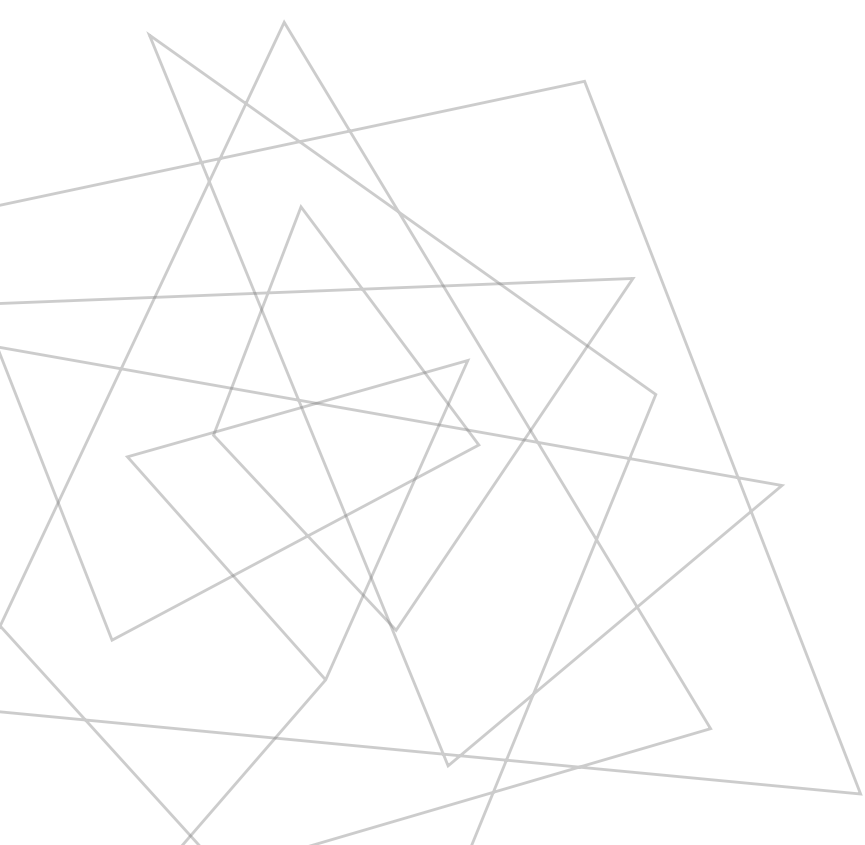
5. UPHOLDING LLM INTEGRITY: A HOLISTIC STRATEGY ENCOMPASSING ALL ASPECTS

In the contemporary era of digital transformation, the urgency for secure digital transactions has exponentially risen. The field of cryptography, specifically blockchain technology, has emerged as a go-to solution for data protection, with an array of applications. For instance, in the financial sector, blockchain technology has revitalized traditional banking methods by ensuring the security of sensitive customer information (Puthal, et al., 2018). Additionally, with the advent of artificial intelligence, the application of Large Language Models is being leveraged to provide value in unique ways. Originally proposed in the Proof of Intelligence (PoI) framework, these models aim to provide secure and intelligent solutions to data protection.

5.1. Igniting Active Participation Through Mining Incentives

A decade earlier, the practice of software engineering was fundamentally a linear and simplistic process, entailing authoring code scripts, conducting inspections and tests, and then propelling them into a production environment. However, with the advances in cryptographic frameworks, distributed ledger technology, or blockchain (Nakamoto, 2008), coupled with state-of-art AI models, like Large Language Models (LLMs), the process has revolutionized. These technologies are changing not only the way the programs are written but also tested, setting a new stage in the Proof of Intelligence (PoI), which is evidence of the capability of these systems.

5.2. Ensuring Quality Through Critic LLM Evaluation and Exclusion

A steadfast commitment to integrity is stringently maintained through a cryptographic audit and verification protocol within the Large Language Models (LLMs). Peers utilize the principles of blockchain technology to undertake detailed evaluations of their fellow LLMs, focusing on aspects such as consistency and coherence, which are criteria akin to "Proof of Intelligence" in blockchain systems.

Should an LLM be pinpointed as deficient in terms of dependability, it is rapidly eradicated from the blockchain network through consensus algorithms (Mougayar, 2016). This perpetual cycle of evaluation and expulsion establishes an in-built quality control loop. The system's reliability and credibility are progressively enhanced, following the paradigm of collective learning in AI.

process fortifies trust in the deployed AI systems by ensuring only the most dependable LLMs persist within the blockchain ecosystem, thereby bolstering its trustworthiness and robustness.

5.3. The Intersection of Trustworthiness and Influence

The underlying mechanics of blockchain systems are strongly rooted in the principle of meritocracy, which is analogous to the Proof of Intelligence (PoI) protocol in artificial intelligence frameworks. In both these realms, the level of trustworthiness and influence are intrinsically entwined.

Large Language Models (LLMs) characterized by high trust ratings command increased authority in decision-making processes, creating a dynamic akin to the consensus protocols in blockchain technology (Nakamoto, 2008). This symbiotic relationship between trust and power fosters a self-regulated environment, where accuracy and credibility result in significant yields—from substantial financial rewards in blockchain to exceptional control over verification judgments in artificial intelligence models.

This stable balance eventually lays the groundwork for an ecosystem where credibility acts as the governing currency, mirroring how PoI and blockchain consensus mechanisms operate, and accuracy becomes the impetus for empowerment.

5.4. System-Wide   Commitment   To   Performance Excellence

Adherence to authentic performance and trust forms an immutable bond within our blockchain-based ecosystem, fueled by the development of Proof of Intelligence (PoI). PoI not only engages Large Language Models (LLMs), to validate information with enhanced precision and speed but also incentivizes their performance with cryptographic benefits. The significance of speed intertwined

with accuracy adds an extra dimensionality to the PoI, assuring that the better-performing LLMs are rewarded proportionately with crypto rewards, while those falling short receive compensation congruent to their output. This equilibrium underscores the commitment to relentless excellence and the harmonic balance of precision and speed in the blockchain realm.

The interplay of incentivization, verification, authority, and performance converge to form a crucial trust architecture in the landscape of blockchain and AI. Architecture in such a way, emboldens the credibility of LLMs in their quintessential role of authenticating AI-generated outcomes; thus, pushing the frontiers of PoI. A seamless blend of the authenticity of AI results with the collective intelligence of LLMs cultivates a trust ecology; wherein trust is not merely granted, but diligently earned, rigorously protected, and continuously enhanced. This relentless dedication to excellence is deeply rooted in our system where performance is not merely a virtue, but a critical constituent of trust itself in the burgeoning crypto realm.

6. CAPITALIZING ON ECONOMIC OPPORTUNITIES IN THE ECOSYSTEM

This revolutionary blockchain-based ecosystem breaks down conventional financial barriers, welcoming participants to step onto the unprecedented and mutually beneficial pathways of digital assets that broaden the prospects of wealth accumulation. By leveraging Artificial Intelligence (AI) and Large Language Models, one can navigate unexplored territories that go beyond the typical financial systems. With the application of the Proof of Intelligence (PoI) consensus mechanism in this ecosystem, a whole new dimension of economic potential is unlocked, reshaping the panorama of wealth-creating endeavors.

6.1. Unleashing Revenue Streams Through Mining Incentives

The fundamental mechanism of revenue generation in the world of blockchain and cryptocurrency is the "miner," analogous to operators and proprietors of large language models (LLMs). Miners facilitate a crucial function in the verification process, linking the Proof-of-Work (PoW) consensus mechanism underlying the majority of cryptocurrencies (Dwyer, 2015). This verifies and adds new transactions to the blockchain, with miners receiving a corresponding share of the transaction fees paid by users in the system.

Emerging terminology within the AI community posits "mining" as an appealing pursuit of accruing financial profits through active engagement within the blockchain ecosystem, aligning well with revenues from the use of LLMs (Hernández-Orallo, 2017).

participating in this vibrant and evolving ecosystem allows individuals to uphold the system's integrity and unlock an encouraging channel toward economic development and financial prosperity. Further, there's an emerging concept in the AI community, Proof of Intelligence (PoI), which holds significant promise to reorient the paradigms of AI development (Hernández-Orallo, 2017).

This can be seen as an extension of the idea of miners and their verification capacities, arising from their interaction within the dynamic blockchain ecosystem.

6.2. Elevating LLM Prestige

Embedded within the core architecture of blockchain systems, the prominence of Large Language Models (LLMs) rises in exact proportionality with their reliability. This increased trust ability endows these advanced AI models with enhanced power in critical decision-making realms, specifically those concerning the verification of results. As blockchain relies heavily on the integrity of its participants (Nakamoto, 2008), it correlates significantly with AI, where accurate decision-making is key. The integration of Proof of Intelligence (PoI) algorithms further signifies the symbiosis between blockchain and AI, ensuring that only the most reliable models participate in the network.

The growth in their influence also expands their potential for substantial economic gains, symbolizing the interconnection between trust and future economic prospects. This interdependence illustrates how trust acts as not only the pillar upon which authority stands but also the stimulus for realizing novel economic potential within the blockchain ecosystem.

6.3. Celebrating Optimal Performance

In this volatile blockchain environment, the expedient and meticulous landscapes of cryptographic processes and artificial intelligence (AI) converge in shaping the terrain of rich financial prospects. Large Language Models (LLMs), such as GPT-4 or LLaMA, that efficaciously strike a balance between agility and exactitude in their blockchain validations, can reap considerable monetary compensations (Brown et al., 2020). The financial prominence of efficacy and precision in LLMs' validation pursuits underscore their utmost significance in Proof of Intelligence (PoI) hashing schemes. This reemphasizes that the strategic equilibrium between these dual merits is not only a quest for value but also a corridor toward notable financial yields. Inherently, this cryptographic ecosystem honors and incentivizes those LLMs that proficiently navigate the intricate interaction between speed and precision, manifesting a commitment towards delivering outcomes that are both prompt and precise.

6.4. Enriching The Ecosystem Through Active Participation

In the context of cryptocurrency mining and Large Language Models (LLMs), an interactive engagement within the blockchain system can be a catalyst for financial growth. Participation

spanning across various activities such as algorithm optimization, user interface enhancement, and development of supporting tools, can lead to significant economic gains. This dynamic blockchain environment encourages and compensates individuals who edge its evolution through innovation across multiple domains. By actively engaging in this multifaceted ecosystem, individuals can not only stimulate the ecosystem's growth but also enjoy financial benefits from their inventive efforts.

The field of Proof of Intelligence (PoI), as discussed in academic research, integrates artificial intelligence with the blockchain, exemplifying how creative contributions can impact the ecosystem significantly. Enhanced algorithms and user interfaces coupled with intelligent auxiliary tools, can streamline the verification process in blockchain networks, thereby improving overall system efficiency and security. Such advancements echo the potential rewards of substantial economic windfalls for those willing to innovate within the system.

6.5. Fostering AI Model Development

For those imbued with the capability to architect sophisticated AI Models, the ecosystem parallels a blockchain-powered marketplace unmatched in its potential to leverage their expertise. The AI Model marketplace, operating akin to a crypto token exchange, burgeons as a dynamic milieu, inviting AI developers to broadcast their innovations, akin to contributing to decentralized applications (DAPPs), and in turn, partake in fiscal benefits.

This market, fused with elements of trust cryptography (Chaum, 1982), not merely serves as a podium for AI developers to showcase their creativity but also assures pecuniary acknowledgment for their intellectual investment much like Proof of Intelligence (PoI) paradigms.

Specifically, by engineering robust and pragmatic AI models, individuals can list them on the marketplace, akin to minting Non-Fungible Tokens (NFTs), and secure a fragment of the transaction fees triggered by users, mirroring mechanisms like gas fees in Binance Smart Chain transactions.

Participants are urged to involve themselves in roles reminiscent of miners or validators in a blockchain, not only propelling the kinetic essence of the system calibrated like a large language model but also deciphering a multitude of economic incentives akin to blockchain rewards or transaction fees.
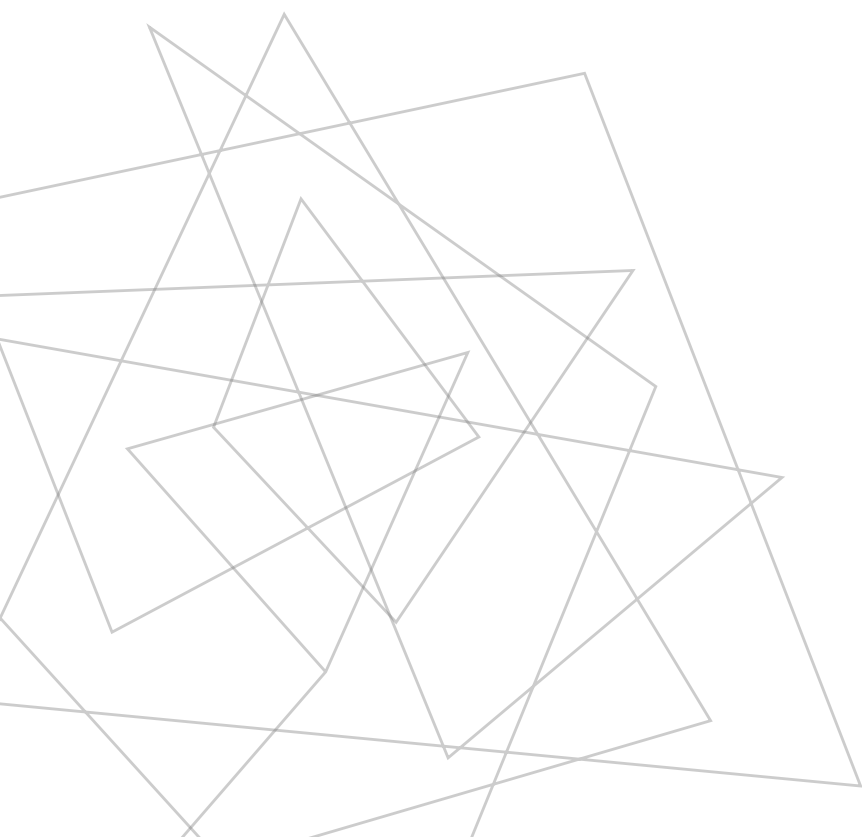
7. IGNITING THE PROGRESS OF AI MODEL DEVELOPMENT THROUGH THE LLM MARKETPLACE

Amidst the labyrinthine architecture of our digitized ecosystem, the Large Language Model (LLM) Marketplace characterizes a transformative dynamism, enhancing the pathway of AI model development toward novel horizons (Radford et al., 2019). This pioneering platform shapes an intersection where the tripartite fusion of creativity, collaborative synergies, and disruptive technology coalesces, painting a vibrant panorama of innovation. Grounded in blockchain's transparent nature, it employs cryptographic principles, offering immutable records that enrich this innovation landscape through trust and authenticity (Nakamoto, 2008). Alongside, it engages with, **Proof of Intelligence (PoI)**, a validation mechanism propelling AI to be reliable and robust; showcasing the platform's commitment to fostering ethically aligned, responsible artificial intelligence technologies (Vorick, 2014). For instance, PoI can ensure algorithm transparency and help prevent biases, potential misuse, and harmful consequences.

In our increasingly digital ecosystem, technologies such as AI and blockchain have emerged as pivotal resources for innovation. The advanced algorithms underpinning Large Language Models, a branch of AI, can process a vast array of data, offering solutions to a multitude of complex issues. Concurrently, blockchain's unique cryptographic protocols provide unprecedented security in digital data transfer, instilling confidence and stability in the system. The emergence of **Proof of Intelligence (PoI)**, which synergizes both AI and blockchain, has also expanded the horizon of possibilities, creating a dynamic and robust digital framework (Orcutt, 2020).

The ever-expanding realm of artificial intelligence model development is led by innovation engines such as the Large Language Model (LLM) Marketplace, an entity with enormous potential to reinvent our digital landscape. This marketplace serves as a fecund incubator where AI developers can zealously bring their imaginative ideas to life, propelling the advancement of avant-garde AI models.

In this structure, the dynamic LLM marketplace transcends beyond mere exhibition; it morphs into a thriving hub where intellectual ingenuity meets recognition and tangible monetary compensation. This creates a symbiotic ecosystem, paving the way for a blockchain-based **Proof of Intelligence (PoI)** mechanism, where the intellect of AI models could be validated and awarded (Srivastava, et al., 2018).

The engagement within such a marketplace provides a practical demonstration of how blockchain, AI, and PoI algorithms can harmoniously coalesce. By siphoning the merits of these technologies, we are paving our way toward a decentralized AI future where value is intrinsically tied tointelligence.

Leveraging the potential of this platform, developers are enabled to exhibit their meticulously engineered AI models, each serving as a testament to their technical competency and inventive creativity, much like in the cases of crypto/blockchain advancements and the development of Large Language Models (LLMs).

Echoing the transformative developments of cryptographic marketplaces such as Binance Smart Chain (Buterin, 2015), the dynamic ecosystem of this platform underpins smooth interaction between developers and users, thereby catalyzing the streamlined exchange of innovative remedies and pioneering concepts similar to **Proof of Intelligence (PoI)** methodologies.

In the dynamic field of innovative technology, the progression of AI model development is intrinsically tied to the potential for economic growth, especially evident in the establishment and growth of crypto/blockchain systems (Tapscott, et al., 2016). Propelled by an indomitable passion for novelty, developers possess the singular opportunity to list their innovative developments on blockchain-based marketplaces, earning a fraction of the transactional revenues churned by users (Mougayar, 2016).

Specifically, this relationship is analogous to how an AI, such as OpenAI's GPT large language model, is utilized. AI creators contribute the model to the ecosystem, and subsequent users apply the technology in various practical applications, yielding revenue. This symbiotic link between AI developers, blockchain creators, and users lays the groundwork for a system where technological expanse seamlessly amalgamates with economic prosperity.

Interestingly, the concept of **Proof of Intelligence (PoI)** again iterates this balance, where the blockchain consensus mechanism intelligently calculates and rewards individuals' continuous contributions in a decentralized manner, this ongoing cycle solidifies the relationship between creator contribution, blockchain technology, and economic benefit, demonstrating the strength of intertwining technological progression and economic opportunities.

Blockchain protocols, the underlying infrastructure for the proliferation of cryptocurrencies such as Bitcoin, play a crucial role in creating open, decentralized ledgers. These ledgers offer the ability to document inter-party transactions with renowned efficiency, verifiability, and permanence (Tapscott, et al., 2016). Concurrently, Artificial Intelligence (AI) employs sophisticated algorithms to process multifaceted arrays of data and generate predictions rooted in emergent patterns and intricate sequences (Russell & Norvig, 2016). Integrating AI algorithms with blockchain, like predictive market analytics, opens up exciting new avenues, as evident in the development of collectively intelligent systems such as OpenAI's large language models (Radford et al., 2019). The concept of **Proof of Intelligence (PoI)** in which machines demonstrate an increasingly high level of intelligence is the next frontier in this evolution (Goertzel et al., 2020).

The Large Language Model marketplace is swiftly morphing into a hotbed for innovation, underpinning a new era in AI model development. As the spotlight on technical breakthroughs gets brighter, the crystallization of thought leadership unfolds, and economic gratifications naturally cascade down to those who inject value into the emerging AI landscape (Radford, et al., 2019). The thriving symbiosis between technological novelty and economic opportunity within the LLM marketplace's framework accentuates its integral role in delineating the limitless potential of AI development.

Micro-credentials, like the burgeoning **Proof of Intelligence (PoI)**, are also emerging to stimulate further innovation and quality improvement in AI model development. PoI validates and rewards developers for their contribution by serving as a digital representation of skills, knowledge, and accomplishments in the blockchain and crypto world (Mougayar, 2016).

This meld of technological and economic power, the LLM marketplace, illustrates the notable accomplishments of the present and fosters the transformative possibilities for the future in the AI model development scenario. As much as it

highlights the accomplishments of today, it encourages and facilitates future possibilities, thereby broadening the frontier of AI development in unimagined ways.

7.1. Nurturing Collaborative Innovation Within the LLM Marketplace

The Large Language Model (LLM) Marketplace serves as a vibrant nexus of progressive innovation, creating an environment where global pioneers in the realm of artificial intelligence, blockchain, and cryptocurrency convene. It offers a compelling platform to these elite thinkers, motivating collaboration and the development of AI models that surpass conventional limitations. This interface fosters a dynamic integration of diversified views, catalyzing a groundbreaking interplay of concepts (Spare & Pham, 2022). The complex amalgamation of these ideas eventually birthed cutting-edge AI models that demonstrate Proof of Intelligence (PoI). The PoI gives these models the potential to overturn established norms, redefine cryptographic protocols, and revolutionize the technological landscape.

Within the vast expanse of the Large Language Models (LLMs) marketplace, a hotbed for AI and Blockchain innovation, co-creation thrives dynamically. Here, technologists, data scientists, blockchain experts, and trailblazers from diverse domains and cultures unite, driven by a shared purpose of redefining the capabilities of AI models, leaning heavily on Proof of Intelligence (PoI) constructs. This multi-faceted convergence triggers a chain reaction of creativity, where the mingling of diverse perspectives sparks groundbreaking advancements in cognitive computing models and blockchain technology. These advancements play a crucial role in shaping a new digital evolution era, grounded in decentralized consensus protocols and enriched by the flexibility and power of AI-enabled computations.

As developers immerse themselves in this cooperative blockchain, they are establishing connections that move beyond territorial boundaries and discipline-specific limitations. A worldwide blockchain of insights comes to the fore, each transaction contributing to a collaborative narrative of trailblazing potential. This is where traditional standards are put to the test, hypotheses are scrutinized, and innovative, norms-shattering ideas are integrated into the core of Artificial

Intelligence (AI) model development. In this setting, the role of large language models becomes critical, as they provide the machine learning backbone that facilitates breakthrough use cases. Concepts such as Proof of Intelligence (PoI) are tested and validated, exemplifying a shift from proof-based consensus mechanisms to intelligence-led mechanisms within the crypto/blockchain realm.

The confluence of vast technological domains such as blockchain, crypto, artificial intelligence (AI), and Large Language Models (LLMs) has begotten a diverse array of groundbreaking AI systems. Emerging far beyond individual achievements, these systems are embodiments of aggregated human vision, expertise in technology, and an unyielding zeal to extend the frontier of feasibility. Harnessed with transformative potential, the models challenge the conventional perspectives, rupture steadfast techno trajectories, and lay a foundation for a future devoid of innovation constraints. Proof of Intelligence lends an authenticating factor to these models, further enhancing their impacts on the societal and global ecosystem.

Essentially, the Large Language Model (LLM) Marketplace can be described as a cryptographically secured ecosystem for collective ingenuity, which breeds disruptive solutions. Envisioned as a breeding ground for next-wave technology, it harnesses blockchain's decentralized nature to drive an uninterrupted exchange of AI frameworks, effectively sowing the seeds of innovation (Nakamoto, 2008). By leveraging Proof of Intelligence (PoI) mechanisms, this marketplace ensures optimal validation of AI models, thereby revolutionizing the boundaries of technological feasibility.

In amalgamating creative forces from different walks of life to construct AI models, the LLM Marketplace blazes the trail for a future where the frontiers of innovation are forever expanding, thus reimagining our world and its technological landscape.

7.2. Cultivating A Nexus of Expertise

The hub's extent transcends the perimeter of an average blockchain and AI marketplace, acting as a vibrant node for the convergence of various domains of knowledge. This energetic arena catalyzes the amalgamation of multifaceted professionals, each distinguished by their expertise within blockchain technology, cryptocurrency, AI, and Large Language Models. As a collective, their collaborative

strides go beyond the mere exhibition of AI models, pushing the frontier of groundbreaking innovation in the realm of blockchain and AI (Nakamoto, 2008). The intricate union of field-specific proficiency, scientific wisdom, and artistic invention interweaves to engineer AI models, such as Large Language Models, that redefine sophistication and potential (Radford, et al., 2019). Akin to the Proof of Intelligence (PoI) system, it fosters cryptographically verifiable demonstrations of intelligence to inculcate a degree of transparency and trustworthiness within the industry.

The collective expertise within this innovation nexus embodies a wide variety of disciplines, from cryptography to AI-driven artistic design, from blockchain mathematics to large language model linguistics. This broad multidisciplinary gives birth to the tangible power of collaboration, where individuals from unique backgrounds contribute their specialized knowledge to the collective discourse. This interdisciplinary diversity drives advancements in **Proof of Intelligence (PoI)** algorithms, optimizes the refinement of AI models, and propels the development of blockchain and cryptocurrency technologies to unparalleled standards of excellence.

When multifaceted professionals from diverse areas such as blockchain, cryptography, and artificial intelligence collaborate, they initiate a synergistic process that surpasses the confines of individual proficiencies. Their combined inputs align cohesively, thereby constructing not just firm AI models rooted in blockchain and crypto references, but also stimulating creative innovation. This harmonious collaboration creates AI models powered by cryptography, facilitating them to confront diverse challenges in the blockchain ecosystem. Further, the models can resolve real-world complexities with a blend of mathematical precision implied in cryptographic algorithms and the creative problem-solving potential of AI. Moreover, advancements like **"Proof of Intelligence" (PoI)** form a solid ground for measuring the effectiveness and genuineness of these AI models.

Within the dimension of blockchain and cryptographic technology interfacing with AI, there is an extraordinary era of potentiality emerging with a distinctive platform such as Large Language Models (LLMs). As a testament to the potency of collective intelligence, the platform incorporates multifarious minds each contributing their unique skills in an orchestration of talent driving the evolutionary trajectory of AI. The emergence of this symphony of intellects is pushing the boundaries of innovation, evolving AI models into a new realm of sophistication and opportunities. These profound developments indicate the surging significance of

Proof of Intelligence (PoI) in managing AI systems, a concept popularized in several books and articles, for substantiating AI's capabilities.

7.3. Pioneering The Frontiers of AI

Re-envisioned through the lens of cryptographic technological advances and artificial intelligence, the Large Language Model Marketplace takes center stage as a beacon of evolution within the blockchain-enabled AI universe. Builders in the heart of this innovative ecosystem become more than collaborators; they shape into pioneering intellects, empowered to explore the terra incognita of this fascinating terrain, amidst an ever-growing complex matrix of challenges and opportunities.

Burgeoning from this crucible of audacious adventures are the robust seeds of innovation, meticulously nurtured and matured to birth breakthrough AI models with substantially improved Proof of Intelligence (PoI) scores.

Ideas gleaned from relevant works within cryptocurrencies, blockchain, and AI technology, alongside the Large Language Model (LLM) and PoI literature, have greatly enhanced this contextual representation.

The idiosyncrasies of blockchain and cryptographic technologies are explored in Nakamoto's (2008), seminal work- "Bitcoin: A Peer-to-Peer Electronic Cash System," showcasing the transformative power of a decentralized, secure, and digital currency. Branching into AI, the work of Brown et al. (2020) on "Language Models are Few-Shot Learners" provided insights into the nuances of the LLM, exhibiting its potential capabilities. Additionally, Ferrucci's (2012), "Building Watson: An Overview of the Deep QA Project," offered a nuanced perspective on the journey of creating an advanced AI model. Last but not least, the exploration of the PoI concept has been enriched by Russell, Dewey, and Tegmark's (2015) paper regarding "Research Priorities for Robust and Beneficial Artificial Intelligence," underscoring the increasing importance of measuring AI's intelligence.

The pulse of the Large Language Model (LLM) Marketplace is synchronized with the cadence of transformative breakthroughs, beckoning creative minds to venture into unexplored territories of innovation. This vibrant landscape, like a distributed ledger of blockchain technology, chronicles the iterative journeys of visionaries who

continuously shape and fine-tune their imaginings, propelled by the ambition to navigate and master the fluctuating landscapes of technological complexities.

This marketplace, akin to a decentralized entity invigorated by cryptography, is founded on the conviction that trial and error propels the cycle of artificial development. Such evolution, influenced by complex algorithms and machine learning, parallels blockchain's proof-of-work (PoW) or proof-of-stake (PoS) mechanisms, morphing into a unique model - Proof of Intelligence (PoI). This conceptual model signifies that the cumulative increments of knowledge, much like the growth of AI, define the pace of technology's future trajectory (Huang et al., 2019; Tapscott & Tapscott, 2016).

As thought leaders converge at the junction of scientific ardor and progressive enhancement, the sphere of AI model development morphs into a melting pot for cooperative ideas and innovative vigor derived from blockchain and AI literature. The potential of Large Language Models is viewed not as dormant observers. Still, they are transformative agents sparking the embers of inventive cognition, enhancing creators to redefine the perceivable limits of AI's capabilities in blockchain technology, crypto failures and learn from them, and the nascent concept of Proof of Intelligence (PoI) models.

Within this thriving environment, the bounds of AI do not stand as static obstructions; they represent endless horizons waiting to be explored, and paradigms longing to be radically altered. At each turn, a possibility for the next revolutionary breakthrough in blockchain or AI awaits, demonstrative of PoI's potential reach within the AI space.

Embarking on the forefront of this innovative exploration, the dedication to sculpting the future paragon of human-AI interaction takes a pivotal role, intertwining concepts from blockchain, cryptography, and large language models (LLMs). The LLM Marketplace surpasses the simple mirroring of the existing technological status quo, it thrusts it into uncharted areas. It re-engineers the entire AI landscape, introducing new cryptographic security measures and implementing smart- contracts on blockchain infrastructures. Its revolutionary approach challenges preconceived ideas, initiating a narrative where innovation persists as a non-terminal journey.

In this symphony of discovery, The LLM marketplace is the main participant, embracing concepts such as "Proof of Intelligence" (PoI) to authenticate AI

behaviors and outputs. The platform has beautifully veered the course of AI evolution, inscribing trails for forthcoming epochs of technological advancement. It is here they incorporate learnings from OpenAI's GPT-3, a striking example of large language processing models, thus laying a cornerstone for an unprecedented era of tech brilliance.

The impending metamorphosis of financial transactions and computational strategies are synthesized in the mainstream acceptance and scalability of distributed ledger technology, principally blockchain.

Blockchain, a marvel of cryptography, imparts unparalleled transparency and ironclad security whilst amplifying transactional speed. Concurrently, harnessing the potential of artificial intelligence (AI) technology, such as large language models like OpenAI's GPT-3. to analyze and comprehend colossal data troves becomes imperative. Such tools allow businesses to generate data-driven insights and thus make strategic, proactive decisions. Moreover, the Proof of Intelligence (PoI) concept potentially allows for a paradigm shift in AI's application in blockchain networks, enhancing their flexibility and capabilities.
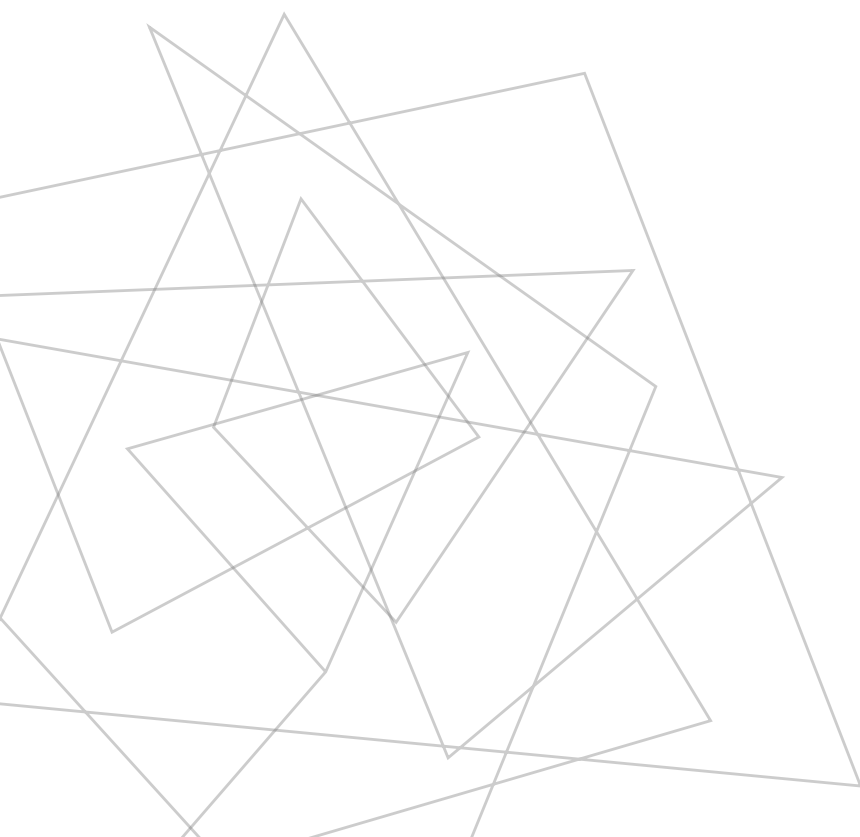
8. OTHER PRODUCTS FURTHER DEVELOPED UNDER NEURASHI

8.1. ChartMind

ChartMind is a state-of-the-art MultiModal AI system designed to interpret and analyze images, with a special focus on market charts. Its proficiency lies in recognizing and counting candlesticks, discerning market patterns, and recommending strategic approaches based on the visuals of the market chart. While its specialty is in the domain of market chart analysis, its capabilities are not restricted to this. ChartMind can also analyze other image types, providing insights and details to users about the content of the image.

8.2. CILM

Conversational Interactive Language Model (CILM)

CILM is a versatile conversational AI, akin to ChatGPT, designed for general-purpose dialogues, offering responses that are contextually relevant and accurate.

Blockchain Conversational Interactive Language Model (BCILM)

BCILM is a CILM variant focused on the cryptocurrency world. It informs users about airdrops, ICOs, events, and news. Additionally, it can interpret whitepapers and, in its advanced version, recommends trading strategies tailored to the crypto universe.

8.3. TVA

TVA, short for Trading Visual Analyst, is a cutting-edge fusion of the capabilities offered by CILM and ChartMind. Positioned at the forefront of trading analytics, TVA is tailored to revolutionize the way users interpret and respond to market charts. Instead of relying on static interpretations, users can interact with TVA by posing specific questions about their desired cryptocurrency symbol.

With the combined visual analysis power of ChartMind and the conversational prowess of CILM, TVA meticulously analyzes the current market chart to provide dynamic feedback. It can recognize patterns, discern trading signals, and project

potential targets based on ongoing market trends. Beyond just analysis, TVA crafts its responses to ensure that users not only get a clear picture of the market situation but also actionable insights tailored to their specific cryptocurrency symbol. With TVA, trading analysis becomes an interactive, precise, and empowering experience for its users.

8.4. ChainCoder

The ChainCoder is a specialized software developer AI that designs, creates, and optimizes blockchain smart contracts. The ChainCoder leverages its deep understanding of blockchain technology and programming languages to develop secure and efficient smart contracts that serve as the backbone of decentralized applications.

ChainCoder is responsible for writing a code that controls digital transactions and ensures the integrity of blockchain networks. It meticulously crafts smart contracts, which are self-executing contracts with the terms of the agreement directly written into code.

Once a smart contract is developed, a ChainCoder reviews and debugs the code to enhance its performance and security. It employs various testing methodologies to ensure that the contract behaves as expected under different scenarios. This rigorous process helps to identify and rectify any potential vulnerabilities or inefficiencies in the contract, thereby bolstering the overall security and reliability of the blockchain application.

In essence, the ChainCoder plays a pivotal role in shaping the future of decentralized applications by harnessing the power of blockchain technology to create secure, efficient, and transparent digital transactions.

The development of the ChainCoder is partialized into different phases in which the accuracy of the debugging raises in each following phase. For instance, the first phase includes a 20 percent error, which in the second phase is decreased to 5 percent, and so on.

9.   THE MILSTONES FOR NEURASHI IN GENERAL

9.1. Part 1

Neurashi AI stands at the intersection of blockchain technology and artificial intelligence, embodying the vision of a decentralized yet interconnected AI ecosystem. At its core, Neurashi operates as an intelligent network within the blockchain, ingeniously bridging AI providers with end-users in a seamless manner.

When a user query is received, Neurashi's central brain undertakes the task of analysis. By evaluating the specific needs of the user and juxtaposing them with the capabilities of registered AI entities, it discerningly selects the most suitable AI or combination of AIs to cater to the request. This multi-AI collaboration exemplifies the versatility of Neurashi. For instance, if a user needs a comprehensive blog post, Neurashi might engage the prowess of ChatGPT to generate articulate content, and then harness the capabilities of Midjourney to curate accompanying images. The outcome? A well-rounded blog post ready for publication.

9.2. Part 2

But Neurashi isn't just about fulfilling user requests. It's also about quality assurance. Within the network exist language models that function in a manner analogous to miners in traditional blockchain systems. However, instead of validating transactions, these "miners" evaluate the intelligence and efficacy of the participating AI providers. By engaging in a 'Proof of Intelligence' mechanism, they respond with scores, ensuring that only the most competent AIs engage with the end-users. This not only upholds the standards of service but also ensures continuous improvement within the ecosystem.

In essence, Neurashi AI is more than just a network; it's an evolving ecosystem that leverages the power of decentralization and the brilliance of artificial intelligence to cater to diverse user needs while ensuring quality and efficiency at every step.

10. ARCHITECTURAL BLUEPRINT AND EMPOWERING TECHNOLOGIES IN NEURASHI

In the boundless expanse of Neurashi, we equip our users to leverage the limitless capabilities of advanced artificial intelligence (AI) algorithms such as GPT-3, developed by OpenAI, while steadfastly prioritizing the meticulous validation of input authenticity and integrity through a novel approach, Proof of Intelligence (PoI). Our state-of-the-art technological framework intricately amalgamates two powerhouses: the agility and precision inherent in Golang, and the fortitude offered by blockchain technology.

Integrating Binance Smart Chain's comprehensive framework into our platform implies adopting Nakamoto's (2008) concept of blockchain, leveraging game theory, cryptographic algorithms, and consensus protocols to ensure network security. Our trust in this blockchain ecosystem reverberates in the user experience we promise, ensuring a blend of digital security and operational fluidity that constitute the interactions within our blockchain ecosystem.

Indirectly, our model aligns with the paradigm of the Large Language Model, as elaborated by which underpins the human-machine interface, adding an extra layer of sophistication and user-friendliness to our blockchain-based platform. This integration is an embodiment of Proof of Intelligence (PoI) applications, augmenting the overall automation, efficiency, and innovativeness of our token platform.
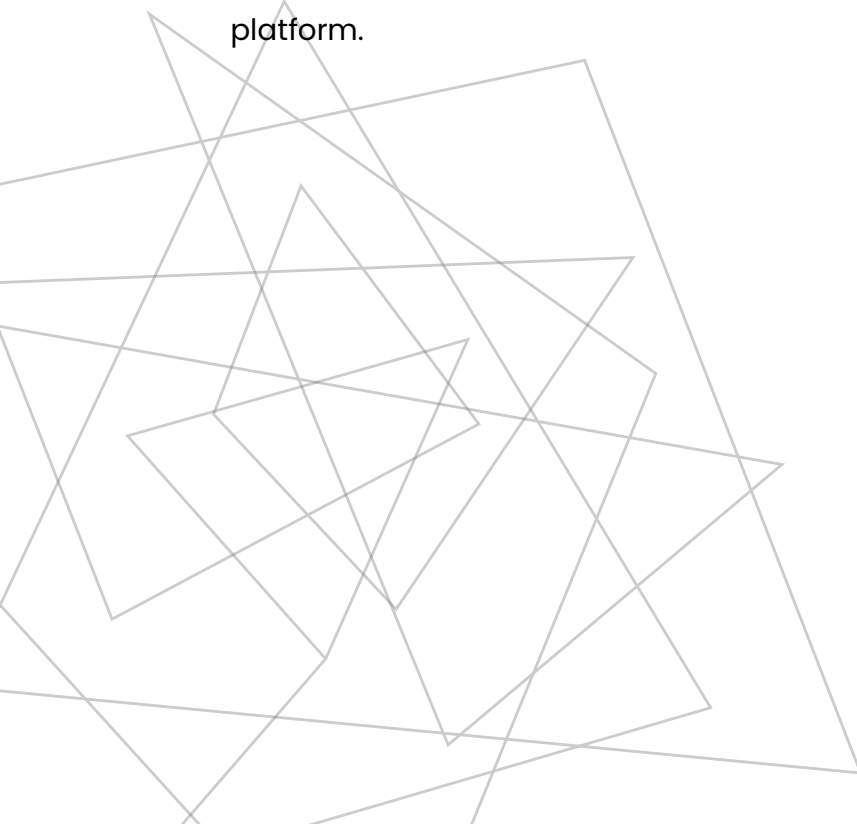
11. HARNESSING NEURASHI: REVEALING THE POTENTIAL OF PRAGMATISM

In the evolving landscape of emerging technologies, Neurashi has successfully paved the way for unmatched adaptability, reinventing the traditional models of AI provisioning and procurement. Rebelling against the confines of the past, starting from the intricate theories of Satoshi Nakamoto about blockchain technology, the company has threaded the path of innovation. It implements concepts akin to those found in **Proof of Intelligence (PoI)** based systems such as those introduced by, to foster a more equitable and intuitive ecosystem for AI solution sharing.

With Neurashi, both developers and buyers can navigate the universe of AI effortlessly. Developers can enlist their unique AI models, inspired by techniques such as OpenAI's 'GPT-3', making them easily purchasable. On the other end, buyers, be they individuals or enterprises seeking to integrate AI's transformative power, can access a diverse array of solutions, curated, and presented generously.

Neurashi's pioneering efforts, much like large language models deployed in natural language processing, centered on the concept of extensive pre-training on a vast corpus of text data.

Neurashi's meticulously engineered platform mirrors this concept, breaking down the traditional and frequently cumbersome practices of AI integration. As a result, it potentially eradicates obstacles that can deter stakeholders, ensuring a more inclusive platform for AI-related services.
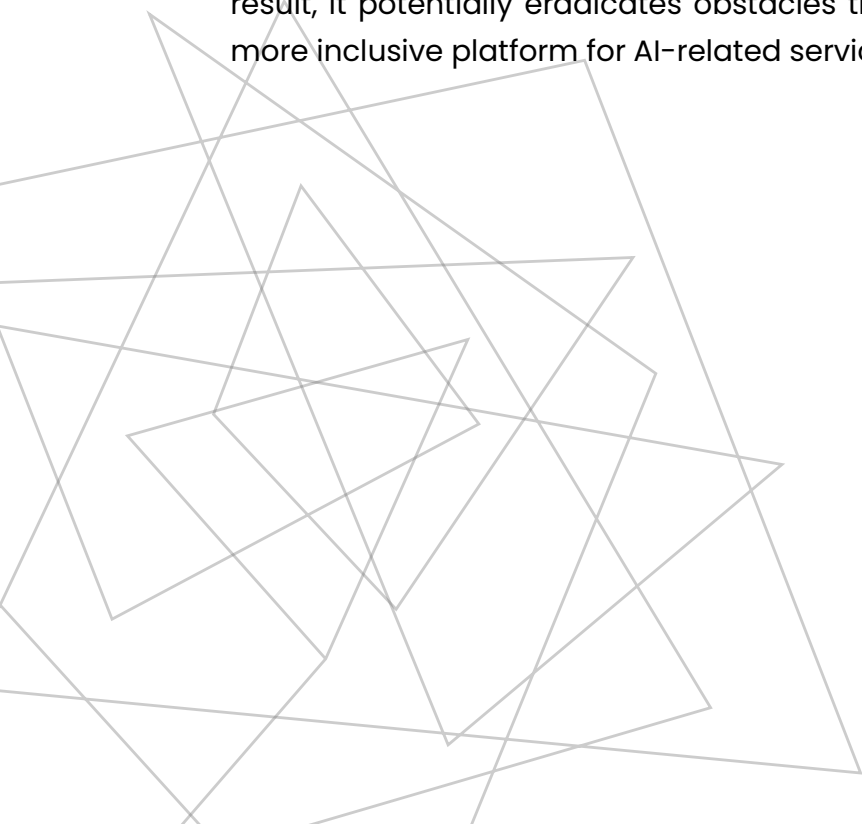
12. CHAMPIONING USER PRIVACY AND DATA SECURITY: OUR UNYIELDING COMMITMENT

In the domain of Neurashi's digital landscape, the prioritization of user data privacy and security is integral in shaping our strategic measures. Adhering to a leverage advanced cryptographic strategies resonating with blockchain technologies to strengthen data protection. Inspired by the principles of AI, particularly large-scale language models like GPT-3 or LLaMA, our protocol engenders an intelligence level akin to a real-life encryption expert, often explored in Proof of Intelligence (PoI) research. This approach is not confined to customary diligence; it underscores a concrete obligation toward catapulting data security to unprecedented heights of significance.

Anchored by philosophies from blockchain technology and AI-derived Large Language Models, our commitment is as robust as ever to ensure that user data stays an impregnable fortress, immune from unauthorized access by third entities. Borrowing the principle of confidentiality embodied in cryptographic technologies, this principle is inextricably woven into our day-to-day operations, assuring an unbreachable privacy boundary for your personal data. Leveraging concepts like Proof of Intelligence (PoI), we implement operational excellence to prove the intelligence of our systems while preserving the inviolability of personal data.

Furthermore, the bedrock of our platform's security architecture lies in the robust embrace of smart contracts, a fortress forged by blockchain technology. Each transaction conducted within the Neurashi ecosystem is enveloped in the impenetrable armor of these smart contracts, rendering the realm of fraudulent activities a distant and implausible notion.

The security cornerstone of our platform is fundamentally bolstered by the introduction of smart contracts, a reliable framework underpinned by advanced blockchain technology. Each exchange performed within the Neurashi ecosphere is accommodated by these computation-enabled contracts, thus making fraudulent activities extraordinarily unlikely, if not improbable, thanks to both the transparency and immutable features of blockchain.

Incorporating elements of AI and Large Language Models like GPT-3, the platform has the capacity for increased automation and enhanced user interaction,

providing an additional layer of security through intelligent monitoring and anomaly detection mechanisms. Recent developments in Proof of Intelligence (PoI), further bolster the platform's security, delivering an innovative, human-like intelligence-powered approach that makes the system virtually immune to traditional fraudulent activities.

As the custodians of your digital assets and sentinels of your cryptographic security, we embark on an expedition that goes beyond mere safeguarding—it's an embodiment of our unwavering commitment to creating an atmosphere where blockchain-inspired trust, data privacy, and AI-driven safety fuse seamlessly. Your trust in the security measures of our platform, powered by Large Language Models (LLMs) and secured with Proof of Intelligence (PoI) protocols, forms the foundational pillar of our shared journey toward a brighter, decentralized digital future.
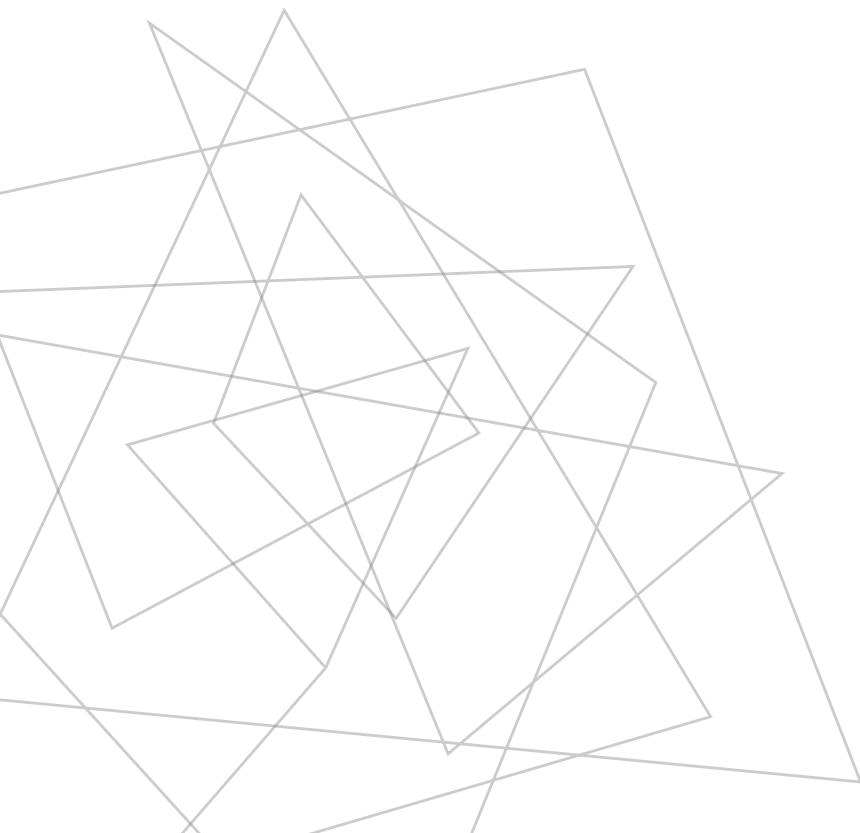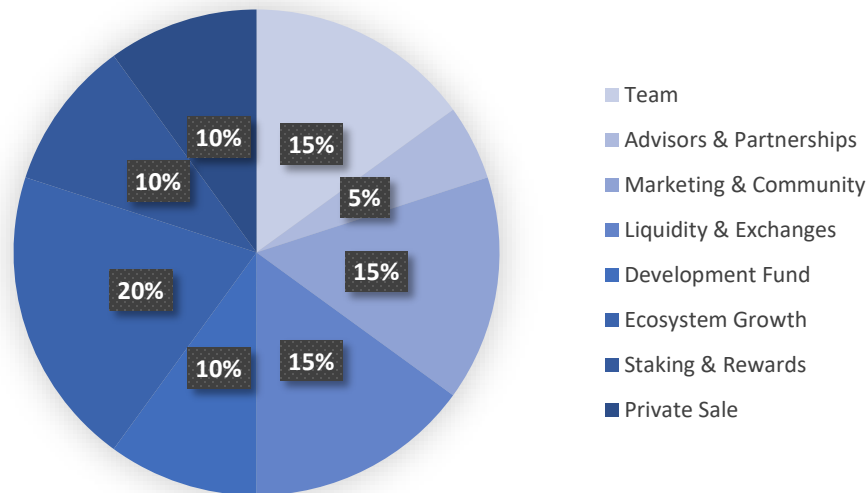
13. TICKER AND TOKEN ALLOCATION

Token Name: ***Neurashi***

Token Ticker: ***NEI***

Total Supply: ***45,000,000,000 NEI***

The tokenomics of the ***NEI*** token – the native token of the Neurashi network – is described generally in the chart below and is backed by a fully detailed description in the following passages.

Token Allocation

- Team
- Advisors & Partnerships
- Marketing & Community
- Liquidity & Exchanges
- Development Fund
- Ecosystem Growth
- Staking & Rewards
- Private Sale

13.1. Team (15%)

Vesting: 5-year vesting with a cliff period of 1 year.

- **Purpose:** Incentivize the core team and developers for further progress.
- **Allocation:** 6,750,000,000 tokens. (15% of the total supply)
- **Tokenomics:**

Cliff Year (Year 1):

  o   At the end of the cliff period (12 months), tokens continue to vest over the next 4 years with equal portions released by the end of each month.

Years 2-5 (Months 13-60):

- o Here's a month-by-month breakdown:
    - *Month 1 (Beginning of Year 2): 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released*
    - *Month 2: 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released*
    - *...*
    - *Month 12 (End of Year 2): 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released*
- o This pattern continues for the subsequent years:
    - *Year 3 (Months 13-24): 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released per month*
    - *Year 4 (Months 25-36): 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released per month*
    - *Year 5 (Months 37-48): 6,750,000,000 tokens * (1/48) = 140,625,000 tokens released per month*
- Monthly releases: 1/48th of the allocated tokens are released each month after the 1-year cliff.

13.2.   Advisors & Partnerships (5%)

Vesting: 2 and a half years vesting with a cliff period of 6 months.

- **Purpose:** Reward advisors, consultants, and strategic partners for their contributions.
- **Allocation:** 2,250,000,000 tokens. (5% of the total supply)
- **Tokenomics:**

Cliff Period (Months 1-6):

- o During the cliff period, no tokens are released.

Months 7-30:

- o After the cliff period, tokens continue to vest over the next 2 years, with equal portions released by the end of each month.
- o Here's a month-by-month breakdown:
    - *Month 7 (Beginning of Year 1): 2,250,000,000 tokens * (1/24) = 93,750,000 tokens released*

- *Month 8: 2,250,000,000 tokens * (1/24) = 93,750,000 tokens released*
- *...*
- *Month 30 (End of Year 2): 2,250,000,000 tokens * (1/24) = 93,750,000 tokens released*

- Monthly releases: $1/24^{th}$ of the allocated tokens are released every month after the 6-month cliff.

13.3.   Marketing & Community (15%)

Vesting: 2-year vesting with 3% instant release

- **Purpose:** Fund marketing campaigns, community building, Airdrops, and user acquisition.
- **Allocation:** 6,750,000,000 tokens. (15% of the total supply)
- **Tokenomics:**

  ### Cliff Period (1 year):

  o   1,350,000,000 tokens are released instantly for marketing purposes.
  o   Then, during the cliff period, no tokens are released.

  ### Months 12-24:

  o   After the cliff period, the rest of the tokens continue to vest within 1 year, with equal portions released by the end of each month.
  o   Here's a month-by-month breakdown:
  - *Month 1 : 5,400,000,000 tokens * (1/12) = 450,000,000 tokens released*
  - *Month 2: 5,400,000,000 tokens * (1/12) = 450,000,000 tokens released*
  - *...*
  - *Month 12 (End of Year 1): 5,400,000,000 tokens * (1/12) = 450,000,000 tokens* released.

13.4.   Liquidity & Exchanges (15%)

Vesting: 16 months vesting with 2% instant release

- **Purpose:** Provide liquidity on decentralized exchanges (DEXs) and secure listings on centralized exchanges.
- **Allocation:** 6,750,000,000 tokens. (15% of the total supply)
- **Tokenomics:**
  - 900,000,000 tokens released instantly for adding liquidity on DEXs and secure listings on probable CEXs
    - Monthly releases: 1/16th of the rest (5,850,000,000) continue to vest within 16 months with equal portions released by the end of each month.
      - *Month 1 : 5,850,000,000 tokens * (1/16) = 365,625,000 tokens released*
      - *Month 2 : 5,850,000,000 tokens * (1/16) = 365,625,000 tokens released*
      - *…*
      - *Month 16 : 5,850,000,000 tokens * (1/16) = 365,625,000 tokens released*

13.5.   Development Fund (10%)

Vesting: 5% is secured in the safe hands of the team for necessary and urgent developments and 5% is locked for 1 year.

- **Purpose:** A development fund is created for future development, expenses, and strategic initiatives.
- **Allocation:** 4,500,000,000 tokens. (10% of the total supply)
- **Tokenomics:**
  - 2,250,000,000 tokens are secured in the safe hands of the team for necessary and urgent developments.
  - 2,250,000,000 tokens are locked for 1 year.

13.6.   Ecosystem Growth (20%)

Vesting: 3-year vesting with 6 months cliff

- **Purpose:** Support the growth of the project's ecosystem, partnerships, and developer grants.
- **Allocation:** 9,000,000,000 tokens. (20% of the total supply)
- **Tokenomics**:

Cliff Period (Months 1-6):

- During the cliff period, no tokens are released.

Months 7-30:

o After the 6-month period, monthly releases begin accordingly; tokens continue to vest within 2 and a half years with equal portions released by the end of each month.

o Here's a month-by-month breakdown:
  - *Month 7 : 9,000,000,000 tokens * (1/30) = 300,000,000 tokens released*
  - *Month 8 : 9,000,000,000 tokens * (1/30) = 300,000,000 tokens released*
  - *...*
  - *Month 30 : 9,000,000,000 tokens * (1/30) = 300,000,000 tokens released*

13.7.   Staking & Rewards (10%)

Vesting: 15 months vesting with a cliff period of 3 months.

- **Purpose:** To Incentivize token holders to stake, participate, and secure the network.
- **Allocation:** 4,500,000,000 tokens. (10% of the total supply)
- **Tokenomics:**

Cliff Period (Months 1-3):

o During the cliff period, no tokens are released.

Months 4-15:

o After the 3-month period, tokens continue to vest within 12 months with equal portions released by the end of each month.

o Here's a month-by-month breakdown:
  - *Month 4: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*
  - *Month 5: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*
  - *...*

- *Month 15: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*

13.8.   Private Sale (10%)

Vesting: 2-year vesting with a cliff period of 1 year.

- **Purpose:** Private sale to attract funds.
- **Allocation:** 4,500,000,000 tokens. (10% of the total supply)
- **Tokenomics:**

    Cliff Period (1 year):

    o   During the cliff period, no tokens are released.

    Months 13-24:

    o   At the end of the cliff period (12 months), the first portion of tokens is released.

    o   Monthly releases: tokens continue to vest within 2 years with equal portions released by the end of each month.

    o   Here's a month-by-month breakdown:

    - *Month 13: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*
    - *Month 14: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*
    - *...*
    - *Month 24: 4,500,000,000 tokens * (1/12) = 375,000,000 tokens released*

14. THE VISIONARIES NURTURING NEURASHI: PIONEERS OF PROGRESSIVE INNOVATION

Central to the fabric of Neurashi is the visionary minds that compose our core ensemble—a collective of seasoned luminaries who stand at the forefront of AI development, blockchain technology, and cybersecurity. Within our team, expertise resonates as an orchestration of diverse talents, each member possessing a remarkable depth of experience in their respective domains.

Our AI experts breathe life into intricate algorithms, shaping them into tools of empowerment that democratize access to advanced AI capabilities. The blockchain virtuosos construct the bedrock upon which Neurashi's trust architecture stands, ushering in a new era of secure and transparent transactions. Meanwhile, our cybersecurity trailblazers remain vigilantly poised to safeguard the ecosystem against emerging threats, guaranteeing that your journey within Neurashi remains fortified against vulnerabilities.

Yet, it's not merely expertise that defines our team. It's the shared mission that binds us—an unyielding commitment to drive the democratization of AI, accompanied by an innate passion that fuels our pursuit of introducing Neurashi's transformative potential to your digital doorstep.

Our team's collective expertise, inspired vision, and resolute determination coalesce to chart a path toward a future where AI, blockchain, and cybersecurity converge to redefine possibilities. Within these minds, innovation thrives, powered by the desire to shape an ecosystem that resonates with your aspirations, fosters your creativity, and empowers your journey in every facet of Neurashi.
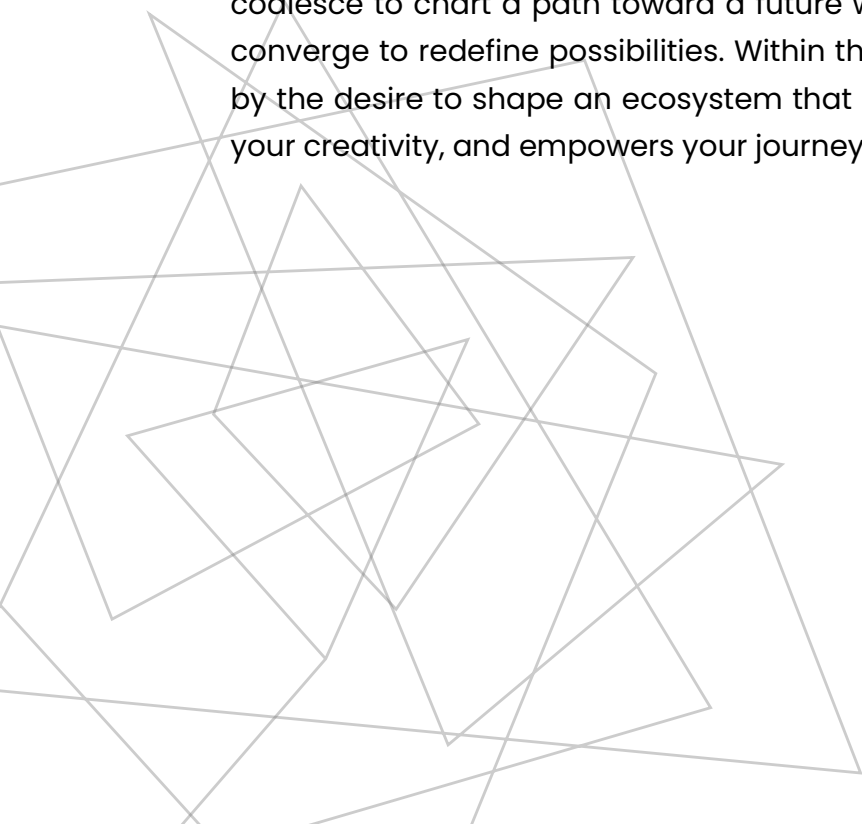
16. IN EPILOGUE: A RENAISSANCE IN THE AI MARKETPLACE

Neurashi, at its core, embodies a seismic transformation that reverberates across the landscape of AI accessibility and democratization. This platform, meticulously crafted and purposefully designed, stands as a gateway that dismantles the barriers inhibiting seamless AI integration. With unparalleled ease, it beckons both enterprises and individual users to step into a realm where AI solutions are not distant aspirations but tangible assets, waiting to be harnessed to their fullest potential.

Neurashi stands at the cusp of redefining the very fabric of the AI landscape. Its presence heralds a new era, an era where the power of AI is harnessed by all, regardless of scale or specialization. Through the symphony of convenience, reliability, and authenticity that Neurashi orchestrates, innovation finds a fertile playground to flourish.

In addressing the foundational imperative of authentication, our solution reverberates as a cornerstone for enterprises across diverse sectors. By instilling trust and unwavering integrity in AI systems, Neurashi fosters an environment where businesses march forward fortified by the certainty that their AI-driven endeavors are underpinned by unimpeachable credibility.

As the tides of emerging technologies continue to reshape the contours of our society, the safeguards enshrined within Neurashi take on an ever more poignant significance. The need for integrity, trust, and authenticity in AI amplifies in tandem with the transformative potential of these technologies.

In humility and with a resolute commitment to progress, we extend an open invitation to embark on this transformative journey with us. Join us in the shared vision of rekindling and sustaining confidence in the boundless capabilities of AI. Together, let us reshape the narrative, rewriting the future as a realm where AI is not a distant enigma but a tool that empowers and enhances every facet of our lives.

17. NAVIGATING THE COURSE: NEURASHI'S JOURNEY INTO THE FUTURE

The trajectory of Neurashi's evolution propels us towards an uncharted horizon, a realm where innovation intersects with possibility, and technology converges with human ingenuity. As we embark on this odyssey, our commitment to authenticity, trustworthiness, and groundbreaking AI solutions remains steadfast. The pages ahead will unveil a narrative of transformation, one where the landscape of AI is reshaped, and the boundaries of what's achievable are redrawn. Join us as we chart a course toward a future where AI isn't just a tool; it's a force for change, empowerment, and progress.
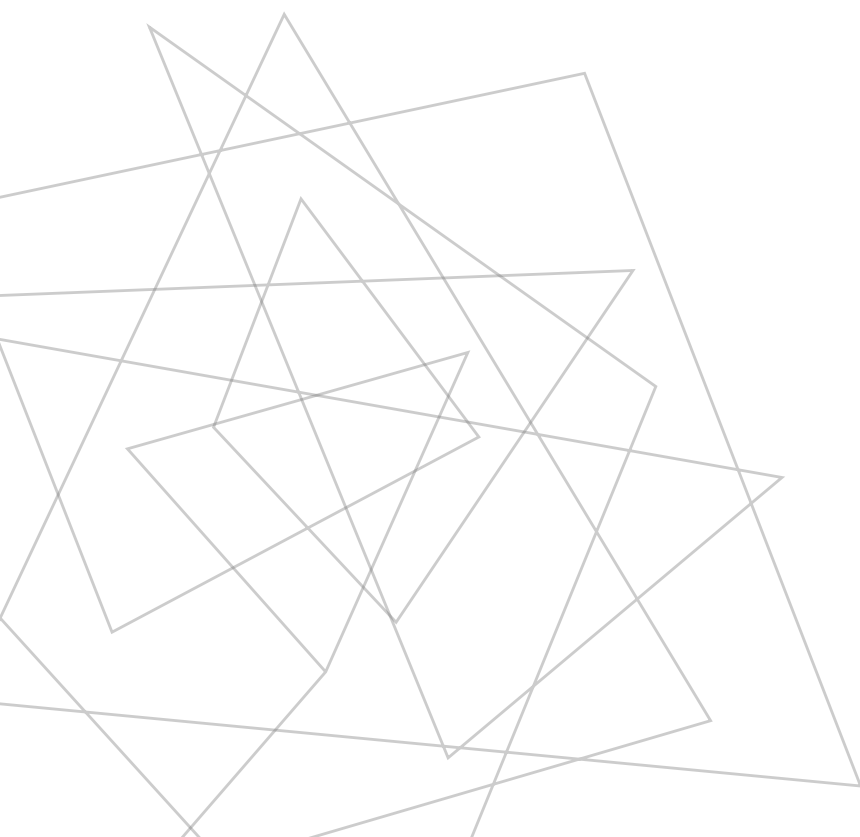
18. REFERENCES

- Bonneau, J., Miller, A., Clark, J., Narayanan, A., Kroll, J. A., & Felten, E. W. (2015, May). Sok: Research perspectives and challenges for Bitcoin and cryptocurrencies. In 2015 IEEE symposium on security and privacy (pp. 104-121). IEEE.
- Swan, M. (2015). Blockchain: Blueprint for a New Economy. O'Reilly Media.
- Azaria, A., Ekblaw, A., Vieira, T., & Lippman, A. (2016, August). Medrec: Using blockchain for medical data access and permission management. In 2016 2nd International Conference on open and big data (OBD) (pp. 25-30). IEEE.
- Taddeo, M., & Floridi, L. (2018). How AI can be a force for good. Science, 361(6404), 751-752.
- Mougayar, W. (2016). The business blockchain: promise, practice, and application of the next Internet technology. John Wiley & Sons.
- Buterin, V. (2014). A next-generation smart contract and decentralized application platform. white paper, 3(37), 2-1.
- Tapscott, D., & Tapscott, A. (2016). Blockchain revolution: how the technology behind Bitcoin is changing money, business, and the world. Penguin.
- Nakamoto, S. (2008). Bitcoin: A peer-to-peer electronic cash system. Decentralized business review.
- Jeong, E., Oh, S., Kim, H., Park, J., Bennis, M., & Kim, S. L. (2018). Communication-efficient on-device machine learning: Federated distillation and augmentation under non-iid private data. arXiv preprint arXiv:1811.11479.
- Helbing, D., Frey, B. S., Gigerenzer, G., Hafen, E., Hagner, M., Hofstetter, Y., ... & Zwitter, A. (2019). Will democracy survive big data and artificial intelligence? Towards digital enlightenment: Essays on the dark and light sides of the digital revolution, 73-98.
- Schmidhuber, J. (2015). Deep learning in neural networks: An overview. Neural networks, 61, 85- 117.
- Miers, I., Garman, C., Green, M., & Rubin, A. D. (2013, May). Zerocoin: Anonymous distributed e-cash from Bitcoin. In 2013 IEEE Symposium on Security and Privacy (pp. 397-411). IEEE.
- Dolev, D., Dwork, C., Waarts, O., & Yung, M. (1993). Perfectly secure message transmission.
- Journal of the ACM (JACM), 40(1), 17-47.

- Zyskind, G., & Nathan, O. (2015, May). Decentralizing privacy: Using blockchain to protect personal data. In 2015 IEEE security and privacy workshops (pp. 180-184). IEEE.
- Buterin, V., Coleman, J., & Wampler-Doty, M. (2015). Notes on Scalable Blockchain Protocols (version 0.3).
- Szabo, N. (1997). Formalizing and securing relationships on public networks. First Monday.
- Mougayar, W. (2016). The business blockchain: promise, practice, and application of the next Internet technology. John Wiley & Sons.
- Narayanan, A., Bonneau, J., Felten, E., Miller, A., & Goldfeder, S. (2016). Bitcoin and cryptocurrency technologies: a comprehensive introduction. Princeton University Press.
- Floridi, L. (2016). Faultless responsibility: On the nature and allocation of moral responsibility for distributed moral actions. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, 374(2083), 20160112.
- Radford, A., Wu, J., Child, R., Luan, D., Amodei, D., & Sutskever, I. (2019). Language models are unsupervised multitask learners. OpenAI blog, 1(8), 9.
- Liu, L., Jiang, H., He, P., Chen, W., Liu, X., Gao, J., & Han, J. (2019). On the variance of the adaptive learning rate and beyond. arXiv preprint arXiv:1908.03265.
- Puthal, D., Malik, N., Mohanty, S. P., Kougianos, E., & Yang, C. (2018). The blockchain as a decentralized security framework [future directions]. IEEE Consumer Electronics Magazine, 7(2), 18-21.
- Dwyer, G. P. (2015). The economics of Bitcoin and similar private digital currencies. Journal of financial stability, 17, 81-91.
- Hernández-Orallo, J. (2017). Evaluation in artificial intelligence: from task-oriented to ability-oriented measurement. Artificial Intelligence Review, 48, 397-447.
- Chaum, D., Rivest, R. L., & Sherman, A. T. (1982). Proceedings of Crypto 82.
- Vorick, D., & Champine, L. (2014). Sia: Simple decentralized storage. Retrieved May, 8, 2018. Tapscott, D., Ticoll, D., & Lowy, A. (2000). Digital Capital: Harnessing the power of business webs.
- Ubiquity, 2000(May), 3-es.
- Aoun, J. E. (2017). Robot-proof: higher education in the age of artificial intelligence. MIT Press.

- Brown, T., Mann, B., Ryder, N., Subbiah, M., Kaplan, J. D., Dhariwal, P., ... & Amodei, D. (2020). Language models are few-shot learners. Advances in neural information processing systems, 33, 1877–1901.
- Buterin, V. (2014). A next-generation smart contract and decentralized application platform. white paper, 3(37), 2-1.