llæ

Agentic Made Trustworthy

litepaper

First Version
February 2025

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Pandite illos
Flore!

Introduction

Llae translates system definitions into verifiable rulesets for on-chain execution.
But what does this mean precisely, and what possibilities does this open up?

Frameworks and regulations govern many areas of our lives, shaping our actions and defining our possibilities. To ensure fairness and consistency, we must thoroughly understand, refine, and uphold these structures.

AI holds great potential for process optimization within our established systems, but regulatory hurdles often limit its use. Llae enables AI adoption in these restricted environments as well.

> **Truth can get lost in the labyrinth of bureaucracy,**
> **but the same can happen within the depths of an AI model.**

AI's opaque internal workings can produce erratic results, precluding its application for tasks where strict rules and protocols are mandatory to ensure quality and reproducibility.

Llae utilizes AI in problem-solving while maintaining acceptable and indisputable results.

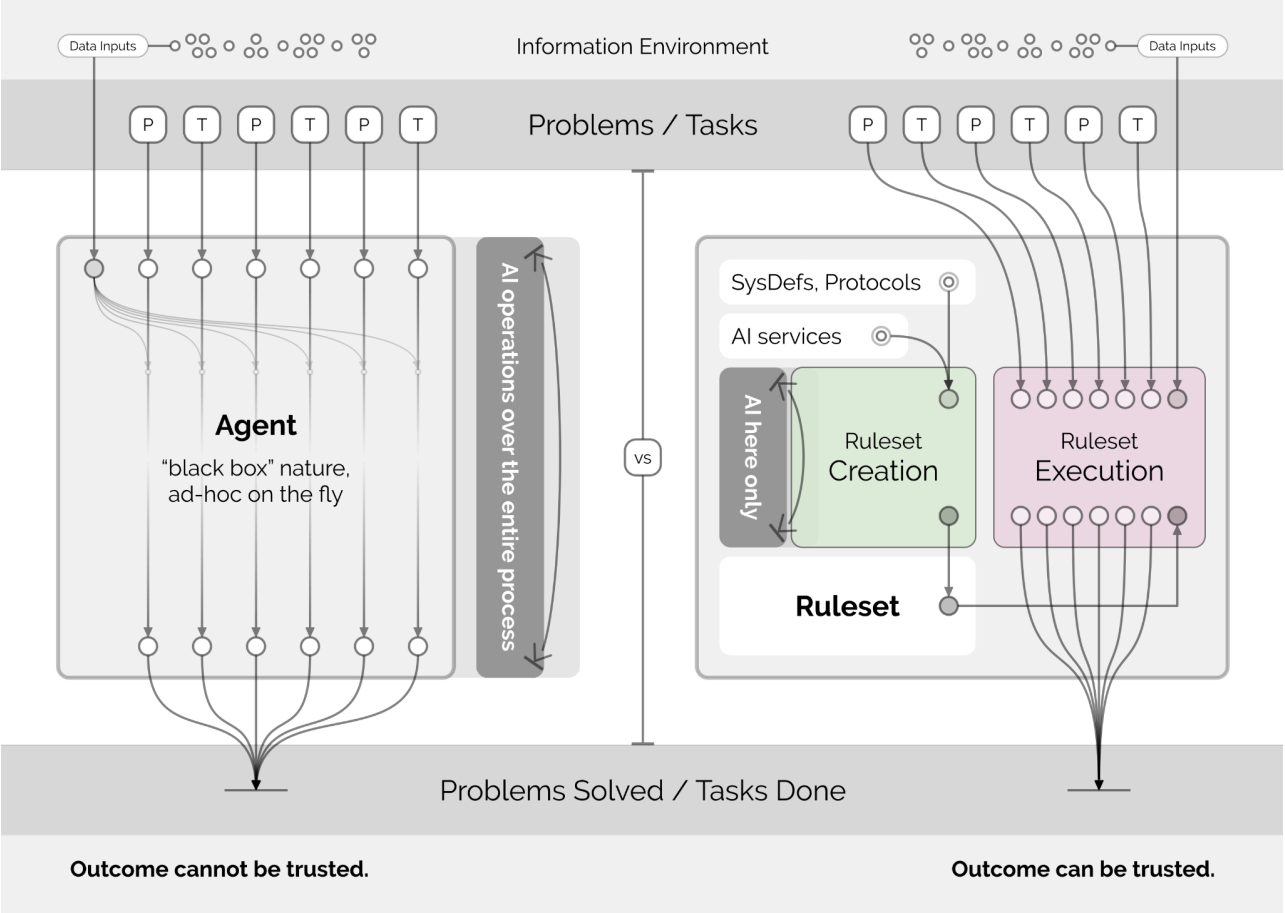
1. It generates formal, data-driven rulesets from defined systems such as business processes, legal frameworks, or scientific protocols. [creation phase]
2. These rulesets are deployed in a cryptographically secured, distributed environment.
3. Applying these rulesets to specific tasks ensures correct and predictable outcomes, as well as full operational transparency and traceability down to the most granular guidelines of the original protocol or rule. [execution phase]

Its capabilities make llae a powerful tool for integrating AI and DLT across various sectors where accuracy and integrity are paramount, including medical and judicial practices, public administration, and beyond.

Agents vs Llae

The diagram shows
how AI agents solve problems

compared to
how llae handles situations.



The difference lies in the process structure. Agents perform non-deterministic computations on-the-fly, which can lead to unpredictable outcomes.

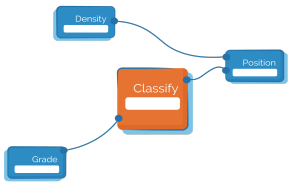
By contrast, **llae uses AI in a distinct phase** to compose a pre-validated ruleset first. This is then applied to problem-solving, guaranteeing consistent results; identical outputs for identical inputs. **This approach enables AI automation even for tasks with fixed protocols.**

// A ruleset is essentially a solution definition for a given task: a representation of an AI's internal workings. However, not as exported code, but as a well-defined, auditable data structure.

Ruleset Lifecycle

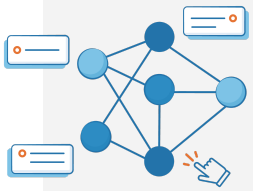
The process of composing and then applying executable rulesets from system definitions with llae involves the following steps:

1. **Input any system definition,** from complex legal frameworks and medical protocols to simple personal action plans.



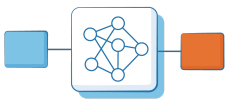
2. **Llae interprets it,** extracting every detail, **and visualizes it** as an interconnected network of nodes.

   This intuitive structure makes even the most intricate logic easily comprehensible.

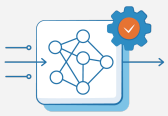


3. **Refine the mapped system** by rearranging nodes, tweaking rules. Add or remove elements for fine-tuning and optimization.

   Test and simulate it under various conditions to identify potential issues before activation.



4. **Activate it:** Deploy the finalized configuration as a ruleset on-chain, to make it publicly available and ready for execution.



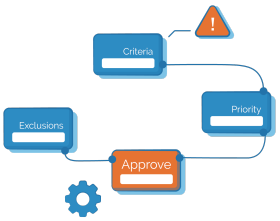
5. **Use it:** Apply the ruleset to a specific task by providing the relevant input data, and let llae generate consistent and auditable results instantly.

A Practical Example

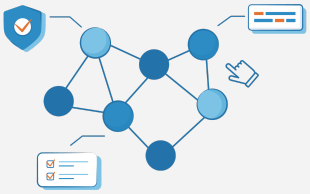
A real-world application of llae: Automating insurance claim processings by making policy details executable:

1. **Policy information,** including coverage types such as collision, comprehensive and liability, deductibles, limits and eligibility criteria, **is input into llae.**

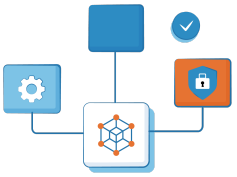
2. **The input is visualized** as a node network, with each node representing specific claim details, coverages, and decision rules, providing a clear and organized view for all processes.



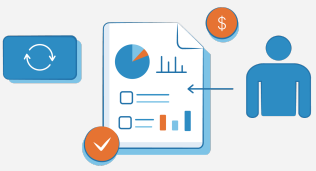
3. **The system can be refined** by adjusting nodes, rules, and simulating scenarios to proactively identify potential issues before deployment.



4. **The finalized configuration is deployed** on-chain, activating the ruleset and making it ready for tamper-proof, automated execution.



5. **Policyholders can submit their claims,** triggering the fully automated evaluation process to receive consistent eligibility determinations and payout calculations.



A New Experience

In today's interconnected world, navigating processes and agreements often feels unnecessarily complex, opaque, and prone to disputes. Consider the stark contrast between traditional methods and the llae-powered experience:

Imagine Jane, stranded by a 12-hour flight delay. Her travel insurance policy, a labyrinthine 15-page PDF, becomes her nemesis.

She wades through legal jargon, grappling with "force majeure" and "technical difficulties".

Hours are lost, frustration mounts, and after a protracted, confusing process, her claim is denied, leaving her feeling cheated and disillusioned.

This scenario, unfortunately, is all too common.

Now, picture John, facing the same flight delay. He opens his insurance app, powered by llae, and selects *"File Claim"*.

He confirms his flight details and llae instantly verifies the delay against real-time airline data. Leveraging the ruleset made for this specific task, the system automatically processes his claim.

Within seconds, he receives a notification: *"Claim Approved. Payout: ### $ deposited"*, along with a clear, concise breakdown of the calculation, ensuring complete transparency.

✓ Eliminating Ambiguity: Once a validated ruleset is deployed within llae, disputes and uncertainties are effectively sorted out. The system operates with predictable, verifiable logic.

✓ Building Unwavering Trust: Businesses trust llae because its execution is deterministic and auditable. Customers trust llae because it delivers fair, transparent, and consistent outcomes.

✓ Simplifying Complex Processes: Llae transforms convoluted procedures into streamlined, automated workflows, reducing friction and enhancing user experience.

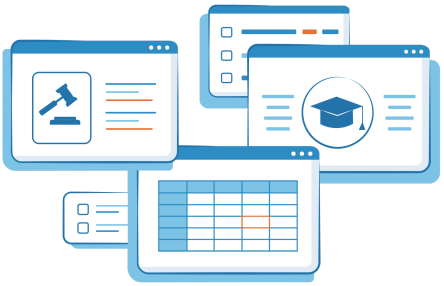
Llae addresses a fundamental challenge: the disconnect between the complexity of modern transactions and the desire for simplicity and trust. By automating processes with transparent, verifiable rules, llae creates a more efficient, equitable, and trustworthy ecosystem that shifts the paradigm from ⟨*Download this PDF and figure it out*⟩ to ⟨*Open in llae and it's done*⟩.

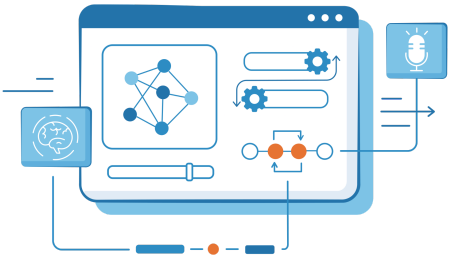
Jobs Unburdened

Llae is not just a step forward in everyday convenience; it is a fundamental shift with the potential to clear cumbersome products en masse from numerous sectors.

Professionals across diverse fields, including legal, governmental, financial, educational, or healthcare, rely on a variety of software applications.

This fragmented approach inherently limits efficiency due to underutilized features and the complex task of integrating these solutions into a cohesive system to support their daily operations.





Llae revamps workflow automation by paring down software complexity and mental overhead.

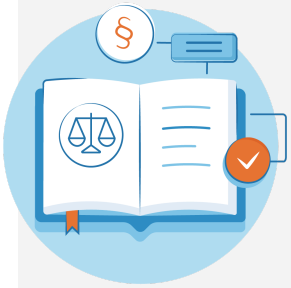
Its powerful rulesets perform complex computations in real-time without manual intervention, eliminating the need for user actions in most tasks, requiring data input only — all within a single, clear interface supporting all work contexts.

// This unique innovation draws on the principle that a wide range of rule-based systems can be modeled as DAGs of content units linked by arithmetic and logical operations, enabling practical implementation and automation.

Llae not only offers a new way to understand and perfect our protocols, but also ensures their seamless deployment and application.

Use Cases

Llae's versatility extends to a variety of applications, including:



Legal Judgment

It facilitates the creation and blockchain-recording of executable, expert-validated rulesets derived from legal frameworks, empowering judges to deliver transparent and accountable judgments with a clear audit trail.

Medical Diagnosis

By recording official diagnosis protocols on the platform, medical professionals can conduct evaluations with enhanced accuracy. The guidelines, embedded in llae as a verifiable format, minimize subjective interpretation and human error, while enabling auditable assessments and valuable research.

Urban Development

The llae platform enables transparency and traceability of building permit procedures through verified databases. It provides stronger support for the rulings of authorities, reduces irregularities, making the decision-making process more efficient.

This specific case is detailed in the next chapter.

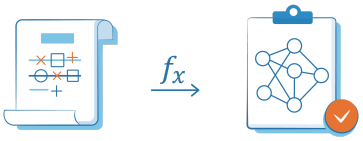
EV Subsidies

Llae is able to provide an AI-powered, expert-optimized, and blockchain-secured ruleset for managing electric vehicle subsidy distribution. This automates eligibility verification, ensuring fair and transparent allocation of public funds and mitigating fraud through traceable transactions.

A Case in Point

Evaluating building applications in a city's permitting process is often subjective, resulting in inconsistencies, disputes, and delays. Ensuring transparent procedures within the constraints of complex legal frameworks, such as building codes, remains a great challenge.

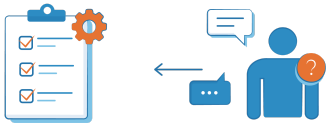
While AI agents could potentially streamline these mechanisms, their "black box" nature does not align with the legal demand for traceable and defensible decisions. Each verdict needs to be clearly tied to specific building codes, maintaining accountability and clarity in scenarios where legal challenges may arise.



By reducing complex legal texts into verifiable rulesets based on mathematical logic, llae ensures that each permit decision is driven by clear, codified rules, making the process consistent and traceable.

Applicants can compare their submissions to accepted ones, see the reasoning behind different verdicts, all of which follow the same transparent rules. It makes each verdict independently verifiable, providing solid grounds for legal recourse if needed.

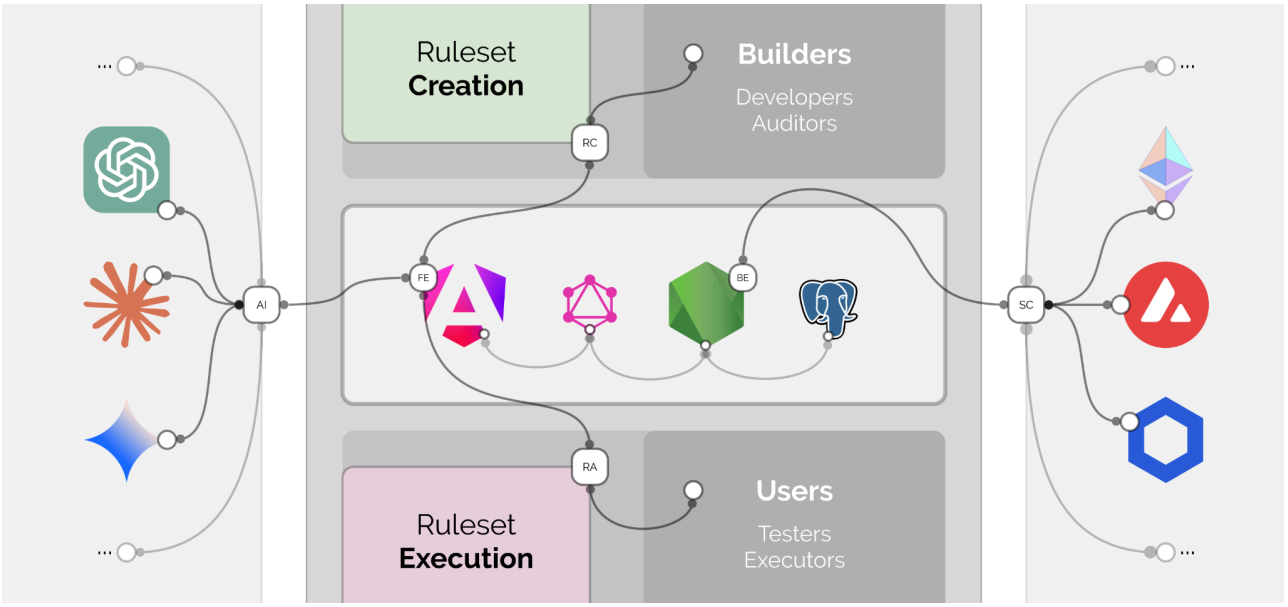
All ruleset versions are recorded on an immutable ledger for a complete audit trail of legal framework updates. A shared record means consistent rule interpretation across all departments, preventing discrepancies.



This infrastructure empowers anyone to verify uniform rule application, understand the rationale behind decisions, and participate in governance by challenging interpretations, fostering trust through full transparency.

This is how llae automates highly regulated processes by converting complex frameworks into actionable rules, while maintaining the essential traceability that other AI solutions lack.

Core Architecture



Llae is presented as a web application, to provide instant, installation-free accessibility for anyone from any device, via a user-friendly interface.

To maintain access to the latest advancements in AI and DLT, llae outsources both processing and integration tasks to third-party services, leveraging well-established solutions, remaining open to various AI solutions, and relying on democratic PoS L1-2 blockchains, as well as reputable oracles for tamper-proof real-world data inputs.

By incorporating a single web application for users and creators, and utilizing external services for key functionalities, the system maintains its **lightweight, up-to-date, low-maintenance, and scalable operation.**

Llae is initially offered as a SaaS solution for broad accessibility, with on-premises deployment options available for organizations with specific compliance requirements.

The long-term vision is to transition llae into a fully-fledged dApp. This can start as Web3 technology matures to adequately support the cloud-based backend infrastructures required for llae's operations.

Web3 Implications

Llae's Web3 integration offers unique advantages aligned with its core mission of transparency, verifiability, and trust, providing an ideal foundation for managing and executing its rulesets.

Introducing the concept of ***" A Closed World Open For Everyone "*** . . .

The synergy of cryptography, blockchain, and decentralization offers a revolutionary potential for creating operational environments where concerns around privacy become nonexistent.

The combination of these technologies allow inherently secure ecosystems where data is shielded from human access through mathematical proofs. This marks a paradigm shift in how the escalating issues of personal data misuse can be addressed.

// Llae aims to transition activities involving personal data processing into these closed, secure environments, and to open access to these solutions for a broad audience.

An integral part of the Web3 transition strategy is the launch of the XAE token, which will occur once a substantial number of rulesets are deployed and actively in use.

XAE will serve several purposes, among others:

Pricing and Sovereignty: It will establish a pricing mechanism for operations on the platform that is independent of external market fluctuations. Governance and Community Participation: The token will enable decentralized governance, giving token holders a voice in development decisions. Network Effects: It shall incentivize contributions to the ecosystem, rewarding users who provide rulesets or validate the network, fostering a vibrant community.

The token will be issued as soon as it can offer tangible value — amidst a crypto landscape increasingly devolving into a casino of useless meme coins.

Initial Roadmap

The development of llae will proceed through the following phases:

(1) Ruleset engine implementation with AI integrations; (2) Platform construction, including frontend, backend, databases, and DevOps support services; (3) Initial rulesets creation and activation; and (4) Web3 integrations, tokenomics design, and XAE issuance.

Our Team

After years of expertise gained through implementing and deploying standardized protocols for structured reporting within clinical environments, we decided to expand our unique, node network-based technology to unlock its potential for general-purpose applications in a Web3 context, all while aligning with our data privacy principles.

This is how llae was born. — a new project from the creators of Graid (graid.io), a team of software developers, data engineers, AI experts and medical professionals.

FAQ

So what's llae's key mandate? Above all, to streamline bureaucracy with efficiency and fairness.

How can I contribute? Participation is encouraged through creating and verifying rulesets, and by introducing llae to stakeholders in public administration.

"When Moon?" Please note that llae is focused beyond cryptocurrency and finance. DLT and cryptography are used as supplementary technologies, and XAE was not introduced with speculation in mind.

Is a detailed roadmap and architecture available? In-depth projections are premature, as the project's progress depends on future partnerships, pilot programs, and funding. Tokenomics and other elements are still being defined.

