



PETRESIA

THE GUARDIAN ALGORITHM

Guided by the Esperanza Charter

PETRESIA MANIFESTO v1.0

The Guardian Algorithm

Guided by the Esperanza Charter

Author: **Samuel Kefelegn Kemachew**

Affiliation: **S.R.E LLC – Scientific Revolution Earth**

Date: **September 17, 2025**

Version: **1.0**

License: **CC BY 4.0**

Contact: **info@petresia.com | +251-911500988**

Executive Summary

Petresia is a guardian algorithm and open protocol that organizes donated compute, data, and human intent into transparent, fair, and verifiable AI services. It places human dignity and public benefit above extraction and monopoly. Petresia's operating model has two layers:

- 1) The Protocol — a decentralized coordination engine that verifies contributions, allocates tasks, and notarizes outcomes.
- 2) The Covenant — a governance charter that encodes values and channels the protocol toward socially beneficial outcomes.

Born in Africa, Petresia is offered to the world as a foundation stone for ethical AI.

1) Why Petresia — The Challenge

AI centralization concentrates power, critical models run behind paywalls, and communities are marginalized. Data asymmetry privileges a few organizations, and trust erodes when systems lack transparency. The Global South risks being left as consumers, not co-authors.

2) First Principles

- Human First: Dignity and safety precede capability.
- Transparency by Default: Verifiable governance.
- Merit + Inclusion: Reward contributions fairly.
- Commons + Markets: Balance public goods and commerce.
- Africa to the World: Local innovation for global use.

3) The Petresia Protocol (How It Works)

- Resource Registry: Nodes register compute, datasets, models, and validators.
- Task Allocation: Jobs matched to nodes via reputation.
- Verifiable Execution: Redundant validation + notarized logs.
- Attribution & Rewards: Reputation and credits.
- Safety Gates: Mandatory audits and checks.
- Interoperability: Open model integration.

4) The Petresia Covenant (Governance)

- Council curates standards and risks.
- Assembly ratifies changes.
- Public deliberation with recorded votes.
- Accountability via audits and disclosures.
- Local chapters adapt to national contexts.

5) Reference Implementations

Civic AI Copilot, Public Health Signals, Education & Skills matching, Sustainable Cities dashboards.

6) Economic & Social Impact

- Governments: Transparent, auditable systems.
- Companies: Open rails, ethical competition.
- Communities: Data ownership and recourse.
- Africa: Source of global digital governance.

7) Safety, Ethics, and Red Lines

No surveillance, no exploitation. Mandatory bias tests, impact assessments, kill-switch protocols, and incident reporting.

8) Roadmap (Next 12 Months)

Q4 2025: Publish v1.0, pilots.
Q1 2026: Independent audit + chapters in 3 countries.
Q2 2026: Developer grants, annual report.
Q3 2026: v2.0 spec expansion.

9) Call to Action

Governments: Pilot public services.
Universities/NGOs: Join governance.
Builders: Contribute compute, datasets, tools.
Citizens: Hold accountable; dignity is the metric.

Petresia is a foundation stone. Let's build a just digital earth upon it.