“This is a universal technical framework for governing AI across borders.”

A Constitutional Layer for AI

A Global Framework for Governing Digital Authority

A universal technical architecture for accountable automation and human-aligned AI.

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1. Executive summary

Artificial intelligence and automated systems are now embedded in critical global infrastructure:

- financial systems,
- healthcare platforms,
- public services,
- logistics and supply chains,
- security and surveillance systems.

These systems increasingly:

- make decisions that affect human rights,
- allocate resources,
- enforce rules,
- and shape social outcomes.

Yet there is no shared global mechanism to answer a fundamental question:

Who is allowed to decide and how is that authority proven?

This paper proposes that the world requires a new foundational layer for AI systems: **Deterministic Governance Systems a constitutional layer for digital authority.**

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2. The global governance crisis

Across countries, AI governance debates focus on:

- ethics frameworks,
- principles and guidelines,
- regulatory proposals,
- risk classifications.

But in practice:

- systems are deployed faster than laws,
- models evolve faster than policies,

- and authority is exercised without technical enforcement.

This creates a global crisis:

AI systems act across borders,but accountability remains local, fragmented, and inconsistent.

There is no universal technical structure for:

- enforcing human oversight,
- proving intent,
- or guaranteeing due process.

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3. Why policy alone cannot govern AI

Global governance efforts rely heavily on:

- declarations,
- charters,
- voluntary standards,
- post-hoc audits.

These approaches fail structurally because:

- they operate outside the system,
- they rely on compliance after damage,
- they cannot enforce behavior at runtime.

In other words:

AI governance today is normative, but not **operational.**

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4. The missing layer: Digital authority

What is missing is a universal abstraction:

Authority as a technical object.

Where:

- decisions are explicitly defined,
- authority is formally modeled,
- outcomes are immutably recorded,
- human control is structurally enforced.

This introduces a new concept:

Digital authority must be governed like constitutional power.

Not assumed.
Not inferred.
Not explained after the fact.

But **proven at runtime.**

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5. Deterministic Governance Model

A deterministic governance system enforces:

No inferred authority

Systems cannot assume intent from data or models.

Only decisions create reality

Everything else is advisory or simulation.

Human sovereignty is structural

Human decisions freeze and unblock systems.

Append-only authority

All decisions are immutable, versioned, replayable.

This creates:

- global auditability,
- provable accountability,
- enforceable human control.

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6. Human sovereignty in software

The core risk of AI is not intelligence. It is **unbounded authority.**

Without deterministic governance:

- AI systems become de facto governors,
- responsibility dissolves into algorithms,
- human agency becomes symbolic.

With deterministic governance:

Humans remain the only legitimate source of authority.

AI becomes:

- cognitive,
- advisory,
- supportive but never sovereign.

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7. Beyond ethics: Enforceable governance

Ethics frameworks ask:

What should systems do?

Deterministic governance enforces:

What systems are allowed to do.

This shifts global AI governance from:

- moral debate
  to:
- technical enforcement.

From:

- “AI should be transparent”
  to:
- **“AI cannot act without authorized decisions.”**

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8. Strategic insight for global institutions

The core insight is this:

The world does not need more AI principles. It needs **AI constitutions.**

Global institutions should focus on:

- standardizing decision governance,
- defining digital authority primitives,
- enforcing human-in-the-loop at system level,
- creating shared audit frameworks.

Not through policy alone, but through **architecture itself.**

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9. Long-term global infrastructure

In the long run, deterministic governance systems become:

- the constitutional layer of AI,
- the technical basis for digital rights,
- the enforcement mechanism for global AI treaties,
- the shared substrate for accountable automation.

Just as:

- international law governs states,
- financial standards govern markets,

decision governance will govern: **digital authority.**

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10. Final reflection

The defining question of the AI century is not:

How intelligent can machines become?

But:

How much authority should they be allowed to exercise?

The answer cannot remain philosophical.It must become **architectural.**

Deterministic governance systems offer a way to encode:

- human sovereignty,
- accountability,
- and legitimacy
  directly into the fabric of software.

Not as a guideline. But as a **global constitutional layer for AI.**

About the Author

Author: Pavan Dev Singh Charak
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Pavan Dev Singh Charak is a systems architect and product founder focused on building deterministic governance layers for enterprise software and AI systems.

His work centers on formal decision models, human-in-the-loop architectures, and provable intent systems designed to make automated systems legally accountable, auditable, and safe by design.

His current focus is the development of **Decision Backbone architectures** a new infrastructure layer that treats decisions as first-class, immutable, and governed objects.

Part of the Deterministic Governance Systems series
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How you can engage and add value

For International Organizations

Use this framework to design enforceable global AI governance standards.

For Standards Bodies

Formalize decision governance as a universal technical primitive.

For Policy Researchers

Shift AI governance from ethical theory to system architecture.

Open Invitation

If you are shaping the future of AI at a global level, this model offers something rare:

Not a policy recommendation, but a **technical foundation for legitimacy itself.**

The world is building intelligent systems.It now needs to build: **legitimate ones.**