AURA ARCHITECTURE

AURA DOCUMENTATION

Welcome to AURA, an institution-grade deterministic data analysis engine powered by Matrix Product States. Grounded in mathematical physics, AURA eliminates conversational hallucinations and ensures verifiable integrity across complex datasets.

TECHNICAL WHITE PAPER

"Grounding a Large Language Model with Tensor Network Coefficients to Force Deterministic Data Analysis." Read the foundation behind AURA's pure abstraction layer.

READ THE PAPER ›

OVERVIEW

AURA breaks away from standard RAG (Retrieval-Augmented Generation) patterns. Standard generative models guess at connections in tabular data, resulting in confident but mathematically flawed insights. AURA computes a Matrix Product State (MPS) topological layer entirely detached from the LLM, reducing all combinations into structural reality, allowing the generative interface to only translate truth.

DATA INGESTION

Dragging and dropping CSV, JSON, or Excel files straight into the workspace initiates the ingestion layer. AURA immediately structures categorical metadata, numeric types, and row geometries, safely packaging them for encrypted transport to the hardware simulation phase.

DATA RECONFIGURATION

Upon arrival, your arrays are dynamically mapped into Ising Spin glass topologies. Here, the values are transformed into quantum coefficients where a "Ground State" energy reduction process reorganizes rows continuously to discover invisible physical correlations within your operations.

DATA QUERYING

Instead of navigating a dashboard of pre-built graphs, simply ask natural language questions. The Translation Ledger takes your query, compares it against the hard mathematical ledger compiled by the solver, and returns an answer guaranteed to reflect the data's absolute mathematical state.

READING VALIDATION INFORMATION

Every time AURA generates a response block, it displays a Confidence and Noise signature. The MPS hardware returns absolute percentages reflecting the convergence threshold. If the math correlates flawlessly, your confidence score remains locked at 99.9%.

EXPORTING VALIDATION INFO

Validation integrity artifacts can be saved. Your workspace allows you to export the detailed Ground State Energy metrics, execution telemetry, and deterministic correlation traces directly to PDF or JSON for compliance sharing.

BRANCHING & "MY INSTANCES"

Aura supports infinite deterministic timelines for Professional tier users. When you upload data, it immediately assigns an `Untitled [n]` workspace mapping. At the top of your console, you can natively rename these instances and permanently "Save" them into the global registry.

Branching lets you fork the timeline of your dataset. By naming and saving multiple permutations, you can instantly swap between them securely using the "My Instances" dropdown unified in the global header, completely abstracting away the need to re-upload.

INDUSTRY EXAMPLES (5)

1. PHARMACEUTICALS
Mapping cross-reactions of organic compounds within clinical trials to discover outlier anomalies undetectable by standard regression.

2. DYNAMIC LOGISTICS
Balancing a global supply chain where weather, warehouse capacity, and fleet availability are processed simultaneously to unblock friction.

3. QUANTITATIVE FINANCE
Interrogating high-frequency order books. Discovering correlation structures between dark pool trading volumes and spot volatility.

4. GRID ENERGY MANAGEMENT
Predicting grid strain across regional transformers based on temperature, residential influx arrays, and solar efficiency decay.

5. DEFENSE / CYBERSECURITY
Correlating network packet ingress metadata to spot topological similarity arrays associated with distributed zero-day attacks.

PLANS & PROVISIONING

DYNSELL operates on a direct institutional provisioning model. The free tier gives you powerful capability, but larger scale usage is managed via high-touch invoicing rather than automated credit card billing.

FREE ACCESS

$0

Try everything with no commitment. Upload a spreadsheet, ask questions in plain English, and see real results.

- ✓ Upload files up to 20 GB
- ✓ 5 daily questions limit
- ✓ Full accuracy & validation
- ✓ Export results as JSON

INSTITUTIONAL INTEGRATION

Invoiced

Built for organizations handling massive or sensitive datasets. Get dedicated compute power, unlimited questions, and custom file size limits by submitting a provisioning request.

SUBMIT PROVISIONING REQUEST

WHY INVOICING?

Because DYNSELL allocates physical compute nodes for maximum deterministic efficiency, we coordinate closely with enterprise clients to ensure dedicated infrastructure is correctly sized. All upgrades are initiated via the provisioning form in your account settings and paid directly via institutional invoice.

ACCURACY TESTING (IN PLAIN TERMS)

Unlike traditional Generative AI where "accuracy" depends on subjective evaluation, AURA's accuracy is a mathematical constant. We conduct Matrix Product sweep testing on synthetically generated datasets with known embedded correlations. The engine must retrieve these correlations at a rate exceeding 99% accuracy before any build is deployed to production.

VIEW LIVE ACCURACY BENCHMARKS

PHI AND HIPAA ARCHITECTURE

You do **NOT** need to manually restructure or de-identify patient healthcare data (PHI) or personal identifiable information (PII) before upload. Aura handles this implicitly through its Zero-Trust logic structure. Data never touches a persistent SQL disk—payloads are mapped strictly into volatile edge RAM, calculated statelessly, and subjected to immediate cryptographic destruction when the connection closes.

VIEW AURA PRIVACY PROTOCOL →

INTELLECTUAL PROPERTY & PRIVACY

We do not retain, train upon, or harvest our customers' data inputs. Period. When a session terminates, the node's vector arrays are destroyed. All correlation matrices, operational discoveries, and exported data belong solely and exclusively to your organization.

FREQUENTLY ASKED QUESTIONS

- WHAT HAPPENS TO MY DATA IF MY BROWSER WINDOW CRASHES? ›
- WHY DID MY API THROW A "402 INSUFFICIENT TOKENS" ERROR? ›
- CAN I EXPORT THE LOGIC TREE AFTER RETURNING TO AN CLOSED SESSION? ›

DEVELOPER INTEGRATION

API DOCUMENTATION

REQUIRED CONSULTATION

Before granting programmatic access to our hardware layer, all prospective enterprise API integrators must complete a mandatory architecture consultation. This ensures your data constraints map perfectly to our deterministic solver geometry and prevents unnecessary computational overhead.

PRICING & MANAGEMENT

The pricing of the consultation and API is strictly managed by the user. The Consultation is booked through your primary portal or by contacting quantum@dynsell.com, and API keys are issued directly through your authenticated workspace hub dashboard.

- **$2,100** – Consultation and Development
- **$200** – Initial Provisioning Fee (Unlimited Use)
- **$899** – Monthly Maintenance Fee
  (Not required if self-maintained, though support delays from our engineers may be possible)
- **Scaled Provisioning Fee:** Based directly on computational utilization, billed incrementally at every $50 interval.

THE MPS TRANSPORTER MODEL

The OPENmps API should **NOT** be actively storing non-MPS data. We hold Matrix Product States (MPS) exclusively as a highly efficient transporter between your desired input and output sources. Dynsell acts purely as a stateless deterministic function.

FUNCTIONAL EXAMPLE:

```
A field maintenance technician records a system status payload and presses "Submit." Instead of pushing raw unstructured logs into a traditional database, the submission payload routes through OPENmps. It is immediately rendered into an MPS array, transported to the final destination securely as an MPS, and perfectly reconstructed on the output—exactly as specified in our white paper. We utilize MPS truncation to compress any unstructured text dynamically. This rigorous topological transformation is precisely why initial consultation is required to set mathematical boundaries for execution.
```

OPENMPS API

The OPENmps API is our custom, company-specific data analysis and management interface. It hashes all features of Dynsell into clean, sensible RESTful integrations. Above all, it completely protects the IP of the user. We do not pipe your data into OpenAI, ChatGPT, or public clouds. The process strictly entails:

1. Data inputs into the API.
2. The API pushes data through the exact Matrix Product State process outlined in the technical white paper.
3. Data is outputted securely into your specific environment exactly how you requested it. Consider it a secure transportation and data optimization protocol, as universally accessible as a data compressor.

AUTH & TOKENS

All API requests demand an active Bearer Authorization header generated securely via your account settings. Tokens can be scoped to read, execute, or root levels for modular deployment.

API OVERVIEW

Access base endpoint `api.dynsell.com/api`. Our services prioritize extreme low latency asynchronous executions for massive datasets, using webhook callbacks for final state delivery upon convergence.

EXAMPLE: SYNCHRONOUS INTERROGATION

```
# POST /api/registries/{id}/interrogate
curl -X POST https://api.dynsell.com/api/registries/$WORKSPACE_ID/interrogate \\
  -H "Authorization: Bearer $AURA_TOKEN" \\
  -H "Content-Type: application/json" \\
  -d '{"query":"What is the anomaly variance?"}'
```

MATH-BACKED PROMISES

Rather than promising generalized "AI insights," our API guarantees a strict adherence to Hamiltonian math. We return structural topology mappings, Ground State Energy calculations, and deterministically sourced relationships.

DATA PRIVACY

A Zero-Trust Guarantee

Data pushed through our API traverses closed networks. We do not use third-party LLM providers for data analysis, guaranteeing that your raw numbers never leak into global transformer training sets.

DATA TYPES

OPENmps natively digests standard `.CSV` arrays and standardized `JSON` objects. Streaming support for massive payload chunks is accessible via multi-part upload pathways.

FLEXIBILITY OF INTEGRATION

Designed to slip seamlessly behind your proprietary firewalls. Whether integrating AURA's analytical engine into your internal company dashboard, piping its output into a PostgreSQL reporting database, or utilizing it as a real-time data sanitizer, the API adjusts perfectly to existing DevSecOps constraints.

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