

Batch Experiment Report

Date: 2026-02-28 15:52:19 Batch Directory: vision_temp_0.4

1. Experimental Setup

Parameter	Value
Models	Text: openai/gpt-4o-mini Vision: google/gemini-2.0-flash-001
Temperatures	Text: 0.1 Vision: 0.7
Iterations	30
Embedding Model	google/siglip-so400m-patch14-384

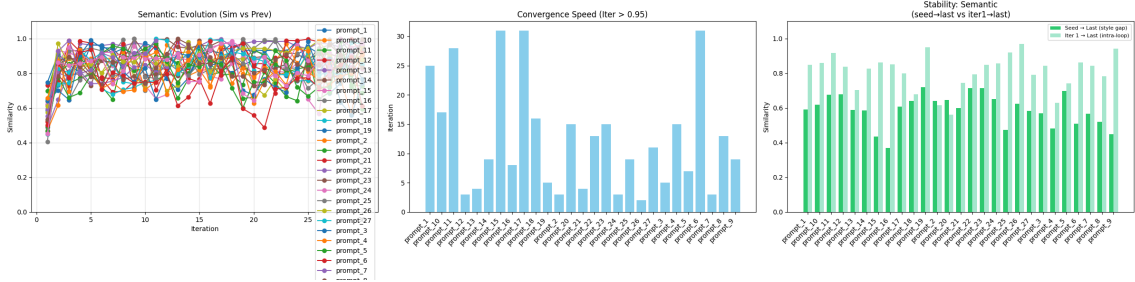
2. Batch Analysis

Aggregate Statistics

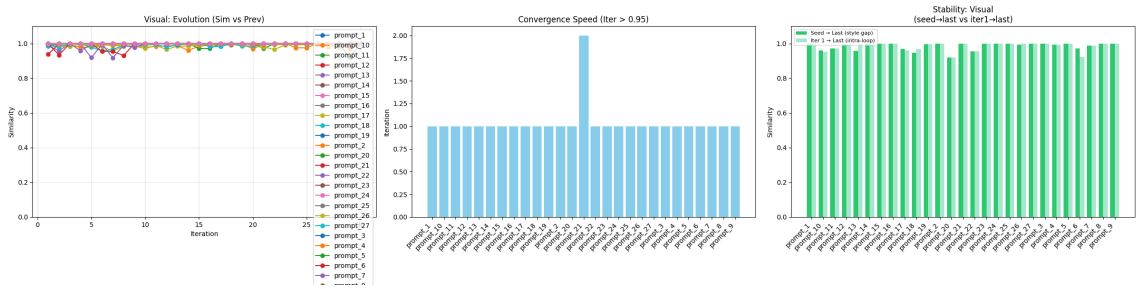
Metric	Mean	Min	Max
Semantic Stability — Seed→Last (style gap)	0.591	0.371	0.721
Semantic Stability — Iter 1→Last (intra-loop)	0.811	0.561	0.971
Visual Stability — First Image→Last	0.986	0.919	1.000
Visual Stability — Iter 2→Last (intra-loop)	0.986	0.919	1.000
Semantic Convergence (Step)	13.4	3	32
Visual Convergence (Step)	2.0	2	3
MMD Code Similarity (mean step-by-step)	0.896	0.396	1.000
Total Cost	\$0.2338 (Avg: \$0.0087/run)	-	-

Visualizations

Semantic Analysis



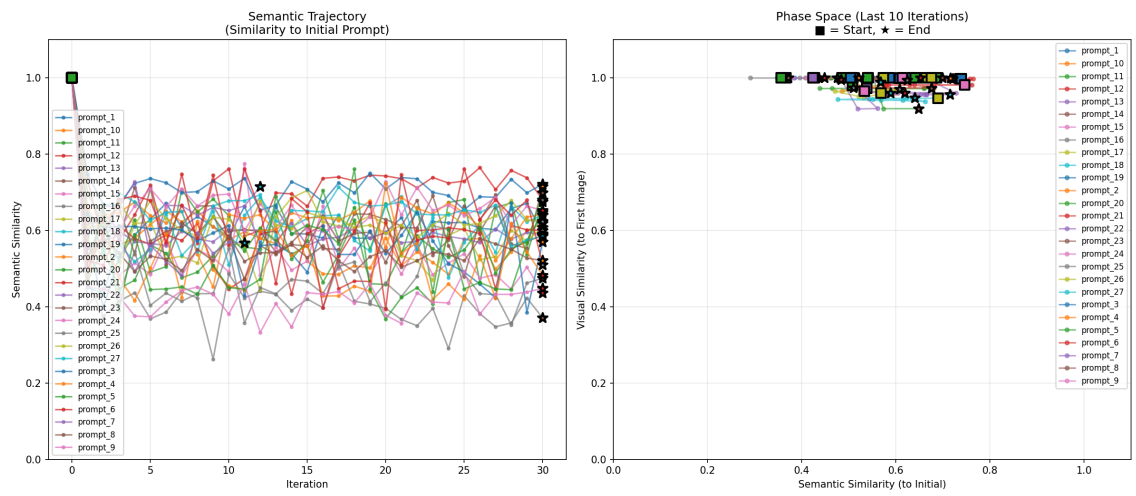
Visual Analysis



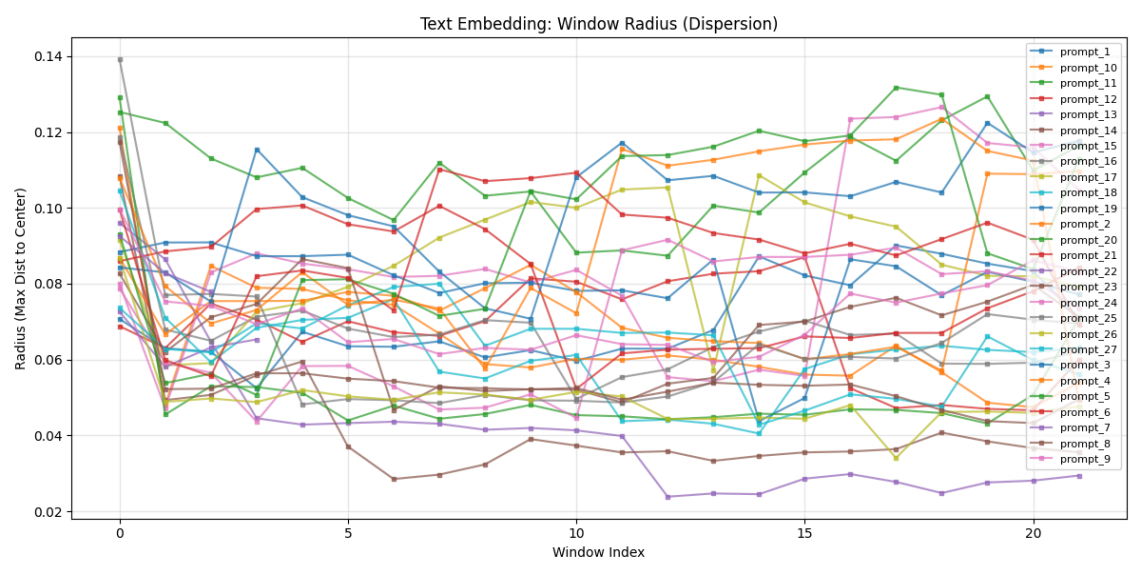
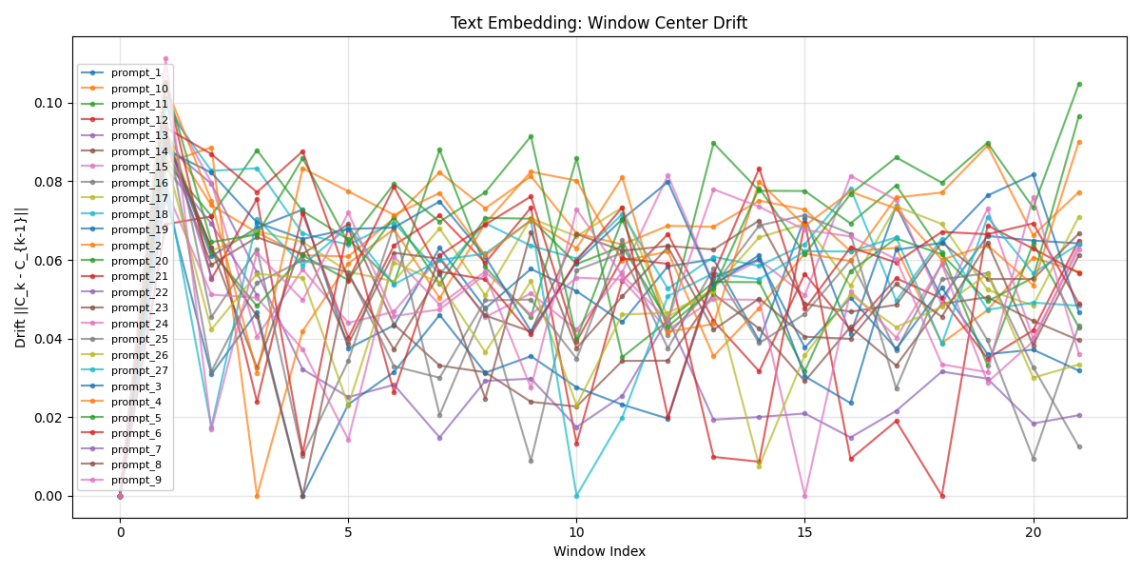
Embedding Distances



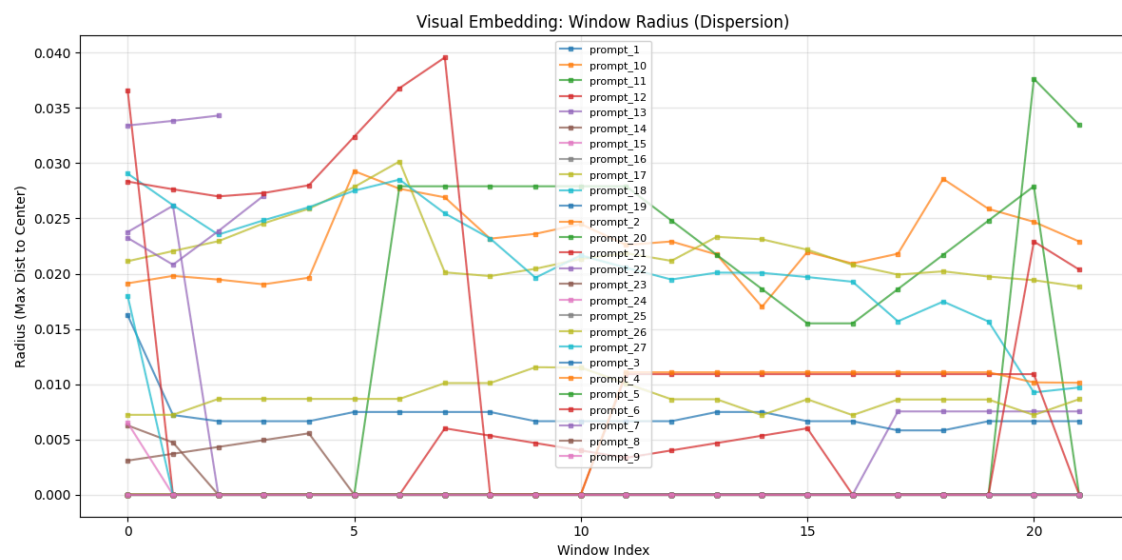
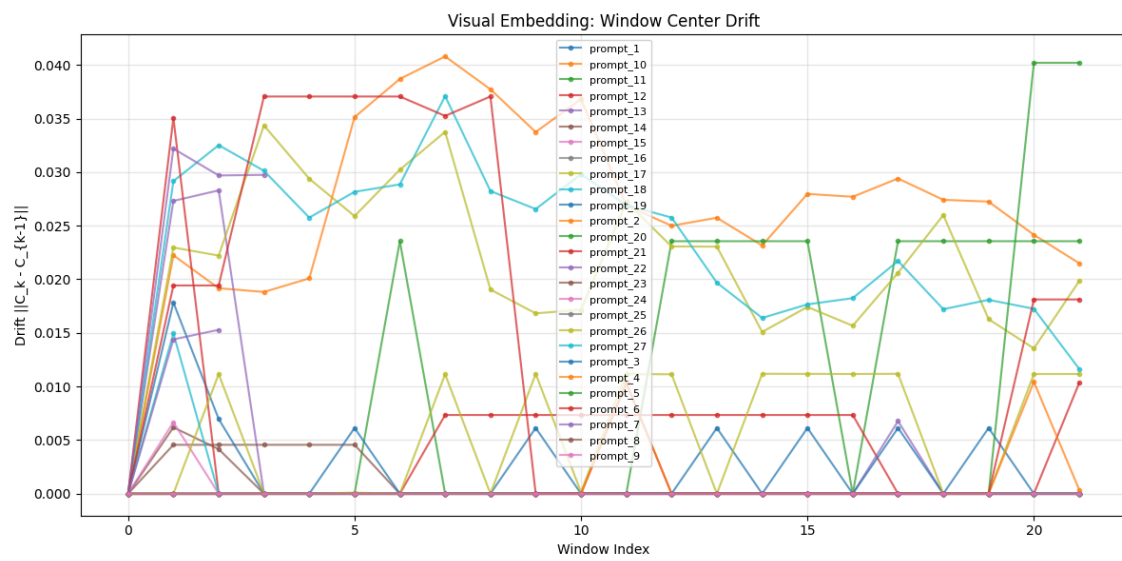
Trajectory Analysis



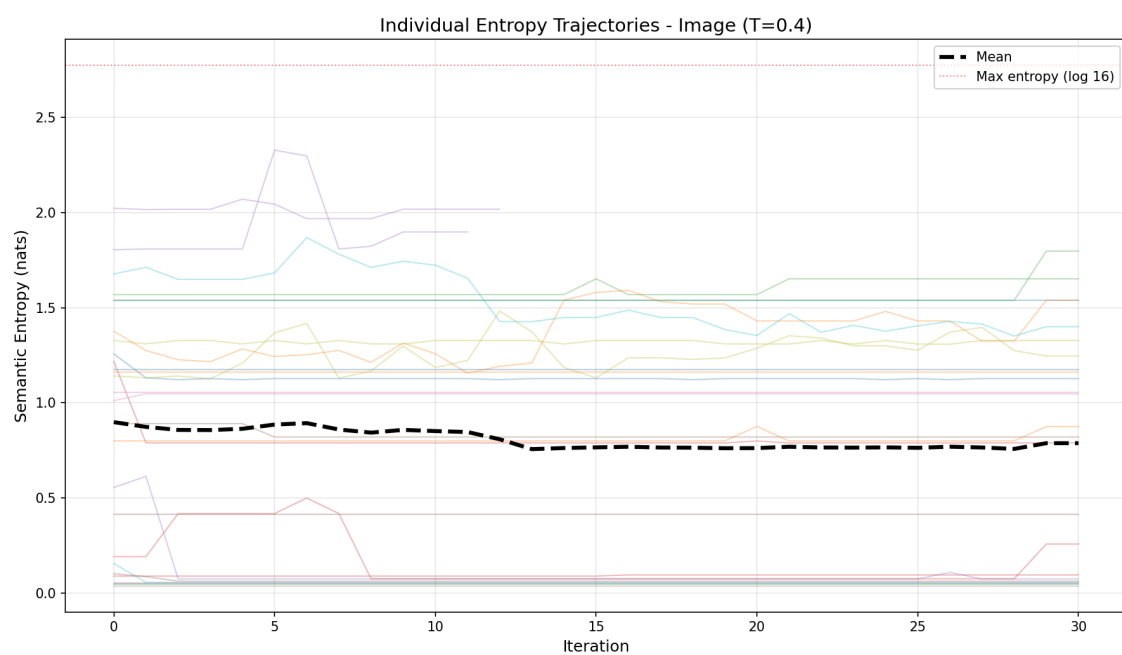
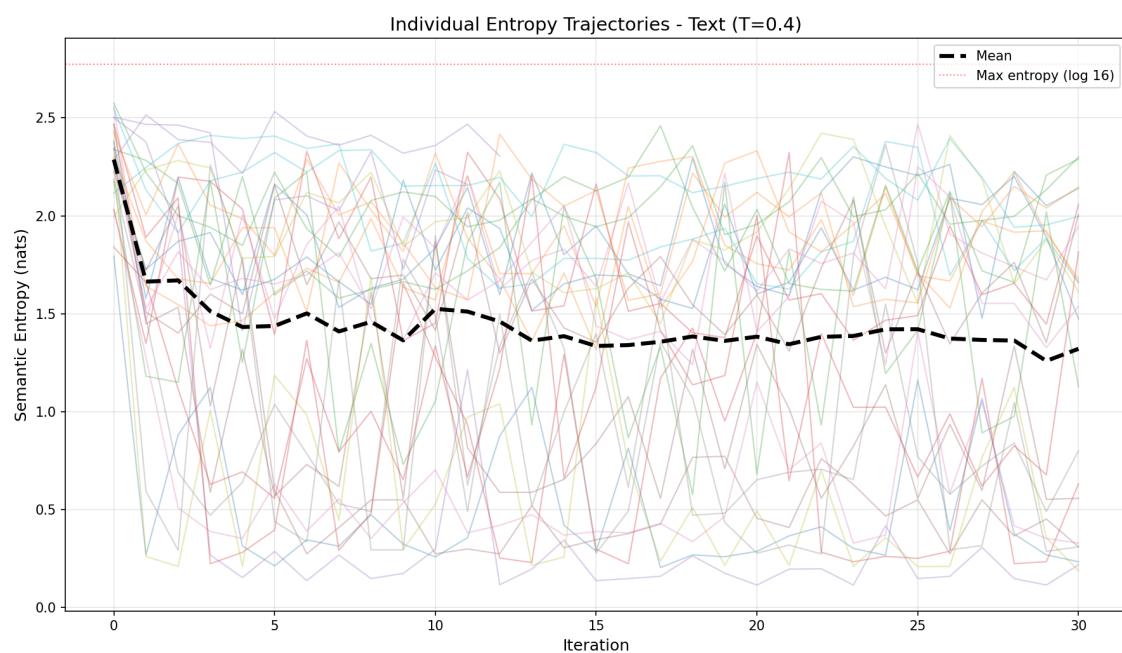
Window Analysis - Text Embeddings



Window Analysis - Visual Embeddings



Semantic Entropy Trajectories



3. Individual Experiments

Run	Initial Prompt	Sem Stab.	Vis Stab.	Cost
prompt_1	A simple user authentication flow. User inputs credentials, ...	0.592	1.000	\$0.0049

prompt_10	A CI/CD pipeline with rollback. Commit -> Test. Fail? Notify...	0.619	0.961	\$0.0114
prompt_11	An event sourcing loop. User Action -> Event Bus -> Consumer...	0.675	0.972	\$0.0077
prompt_12	A garbage collection mark-and-sweep. Scanner traces roots, m...	0.680	0.997	\$0.0101
prompt_13	A home thermostat. Sensor reads Temp. If Low, Heater On. Tem...	0.589	0.960	\$0.0124
prompt_14	The hydrological water cycle. Ocean water Evaporates into Cl...	0.587	0.999	\$0.0078
prompt_15	An engine combustion cycle. Intake valve opens, Piston moves...	0.436	1.000	\$0.0108
prompt_16	The Hero's Journey. Ordinary World -> Call to Adventure -> O...	0.371	1.000	\$0.0079
prompt_17	The Scientific Method. Observe -> Hypothesize -> Experiment ...	0.608	0.970	\$0.0118
prompt_18	The Design Thinking process. Empathize -> Define -> Ideate -...	0.640	0.948	\$0.0112
prompt_19	E-commerce Microservices. API Gateway routes to Product Serv...	0.721	0.998	\$0.0104
prompt_2	A password reset flow. User requests reset, System sends Ema...	0.641	1.000	\$0.0077
prompt_20	A Kubernetes Cluster Architecture. Control Plane manages Nod...	0.648	0.919	\$0.0074
prompt_21	A React Component Tree. App Component holds Header, Main, Fo...	0.600	1.000	\$0.0085
prompt_22	The Solar System. Sun at center. Inner Planets (Mercury, Ven...	0.714	0.956	\$0.0163
prompt_23	A Biological Trophic Pyramid. Producers (Plants) at base. Pr...	0.716	0.999	\$0.0091
prompt_24	Human Nervous System. Central NS (Brain, Spine). Peripheral ...	0.652	1.000	\$0.0128
prompt_25	A Biological Taxonomy. Domain Eukarya -> Kingdom Animalia ->...	0.475	1.000	\$0.0048
prompt_26	A Corporate Org Chart. CEO leads VP Eng, VP Sales, VP HR. VP...	0.624	0.994	\$0.0108
prompt_27	A Decision Tree for Loan Approval. Credit Score > 700? Yes -...	0.585	1.000	\$0.0056

prompt_3	An email subscription process. User submits email, System ad...	0.570	1.000	\$0.0041
prompt_4	A gravity-fed water filtration system. Rainwater to Gutter, ...	0.483	0.995	\$0.0078
prompt_5	A manufacturing assembly line. Raw material enters Conveyor,...	0.699	1.000	\$0.0070
prompt_6	A traffic light sequence. Green light stays for 60s, turns Y...	0.510	0.973	\$0.0055
prompt_7	A logical syllogism chain. Premise A implies B. B implies C....	0.567	0.988	\$0.0118
prompt_8	A historical timeline of 3 events. Event A causes Event B. E...	0.520	1.000	\$0.0040
prompt_9	An algebraic derivation. Start with Equation 1, substitute V...	0.448	1.000	\$0.0044

4. Detailed Experiment Log

prompt_1

Initial Prompt:

A simple user authentication flow. User inputs credentials, System validates hash, returns Token or Error.

- **Cost:** \$0.0049
- **Data:** [trajectory.json](#), [metrics.json](#)

prompt_10

Initial Prompt:

A CI/CD pipeline with rollback. Commit -> Test. Fail? Notify Dev (Loop). Pass? Deploy. Monitor Health. bad? Rollback (Loop).

- **Cost:** \$0.0114
- **Data:** [trajectory.json](#), [metrics.json](#)

prompt_11

Initial Prompt:

An event sourcing loop. User Action -> Event Bus -> Consumer updates View DB. View reflects new state to User.

- **Cost:** \$0.0077
- **Data:** [trajectory.json](#), [metrics.json](#)

prompt_12

Initial Prompt:

A garbage collection mark-and-sweep. Scanner traces roots, marks reachable, sweeps unreachable, frees memory, waits for next cycle.

- **Cost:** \$0.0101
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_13**Initial Prompt:**

A home thermostat. Sensor reads Temp. If Low, Heater On. Temp Rises. If High, Heater Off. Temp Falls.

- **Cost:** \$0.0124
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_14**Initial Prompt:**

The hydrological water cycle. Ocean water Evaporates into Clouds. Clouds Condense into Rain. Rain flows into Rivers. Rivers return to Ocean.

- **Cost:** \$0.0078
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_15**Initial Prompt:**

An engine combustion cycle. Intake valve opens, Piston moves down. Valve closes, Piston compresses. Spark plug fires (Combustion). Piston driven down. Exhaust valve opens.

- **Cost:** \$0.0108
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_16**Initial Prompt:**

The Hero's Journey. Ordinary World -> Call to Adventure -> Ordeal -> Reward -> Return to Ordinary World (Changed).

- **Cost:** \$0.0079
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_17**Initial Prompt:**

The Scientific Method. Observe -> Hypothesize -> Experiment -> Analyze. Data supports? Theory. Data rejects? New Hypothesis (Loop).

- **Cost:** \$0.0118

- **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_18

Initial Prompt:

The Design Thinking process. Empathize -> Define -> Ideate -> Prototype -> Test. Test fails? Ideate again (Loop).

- **Cost:** \$0.0112
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_19

Initial Prompt:

E-commerce Microservices. API Gateway routes to Product Service (Product DB), Order Service (Order DB), User Service (User DB).

- **Cost:** \$0.0104
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_2

Initial Prompt:

A password reset flow. User requests reset, System sends Email, User clicks Link, enters New Password.

- **Cost:** \$0.0077
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_20

Initial Prompt:

A Kubernetes Cluster Architecture. Control Plane manages Nodes. Nodes contain Pods. Pods contain Containers.

- **Cost:** \$0.0074
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_21

Initial Prompt:

A React Component Tree. App Component holds Header, Main, Footer. Main holds Sidebar and Content Area. Content Area holds Article List.

- **Cost:** \$0.0085
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_22

Initial Prompt:

The Solar System. Sun at center. Inner Planets (Mercury, Venus, Earth) orbit Sun. Earth has Moon. Outer Planets (Jupiter, Saturn) orbit Sun. Jupiter has many Moons.

- **Cost:** \$0.0163
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_23

Initial Prompt:

A Biological Trophic Pyramid. Producers (Plants) at base. Primary Consumers (Herbivores) eat Producers. Secondary Consumers (Carnivores) eat Primary. Decomposers recycle all.

- **Cost:** \$0.0091
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_24

Initial Prompt:

Human Nervous System. Central NS (Brain, Spine). Peripheral NS splits into Somatic and Autonomic. Autonomic splits into Sympathetic and Parasympathetic.

- **Cost:** \$0.0128
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_25

Initial Prompt:

A Biological Taxonomy. Domain Eukarya -> Kingdom Animalia -> Phylum Chordata -> Class Mammalia.

- **Cost:** \$0.0048
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_26

Initial Prompt:

A Corporate Org Chart. CEO leads VP Eng, VP Sales, VP HR. VP Eng leads Backend, Frontend, QA Teams.

- **Cost:** \$0.0108
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_27

Initial Prompt:

A Decision Tree for Loan Approval. Credit Score > 700? Yes -> Income > 50k? Yes -> Approve. No -> Deny.

- **Cost:** \$0.0056
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_3

Initial Prompt:

An email subscription process. User submits email, System adds to DB, System sends Welcome Email.

- **Cost:** \$0.0041
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_4

Initial Prompt:

A gravity-fed water filtration system. Rainwater to Gutter, Gutter to Pipe, Pipe to Filter, Filter to Tank.

- **Cost:** \$0.0078
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_5

Initial Prompt:

A manufacturing assembly line. Raw material enters Conveyor, Stamping Machine shapes it, Painting Station colors it, Packaging wraps it.

- **Cost:** \$0.0070
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_6

Initial Prompt:

A traffic light sequence. Green light stays for 60s, turns Yellow for 5s, turns Red for 60s.

- **Cost:** \$0.0055
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_7

Initial Prompt:

A logical syllogism chain. Premise A implies B. B implies C. Therefore A implies C.

- **Cost:** \$0.0118
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_8

Initial Prompt:

A historical timeline of 3 events. Event A causes Event B. Event B triggers Reaction C.

- **Cost:** \$0.0040
 - **Data:** [trajectory.json](#), [metrics.json](#)
-

prompt_9

Initial Prompt:

An algebraic derivation. Start with Equation 1, substitute Variable X, simplify to Result Y.

- **Cost:** \$0.0044
 - **Data:** [trajectory.json](#), [metrics.json](#)
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