The Value of LLMs

Why 'stupid' machines are smarter than you think

By Travis Frisinger



About ME

Technical Director of AI at 8th Light

My AI experience has focused on Natural Language Processing implementation for VoIP platforms.

Rather than focusing on model development, my expertise lies in building practical, real-world applications of AI.





The Quest

This isn't just a lecture it's also the story of a quest: to understand a feeling, and trace the structure beneath it.

GPT-3.5: Familiar Baseline

Fluent Text Generation

Demonstrated Q&A and summarization capabilities with correct syntax and grammar.

Lacked Emergent Structure

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Responses were more modular, each answer stood alone rather than building coherence.

November 2022 Baseline

This was my world before coherence emerged in AI systems.



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GPT-4 Launch: Uncanny Moment

"I felt my brain tingle as the words aligned effortlessly."

The Spark

GPT-4's visibly surpassed anything before, creating a visceral reaction.

Not Alone

Others were noticing this emergent structure too-something fundamental had changed.





When Output Felt Like Understanding

That moment when AI responses transcended mere text generation and displayed something eerily similar to comprehension.



Takeaway: Your Journey is The Prompt

Never treat your first prompt as "the one." Great results emerge through iteration.



Chasing the Pattern

That feeling wouldn't let go. I needed to run experiments, to track exactly when and where it emerged. What could be done with it?





Vibe Coding & Live Streams



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Pair-Coding

Dynamic prompt to code with GPT-4 as partner.

Live Experimentation

Real-time LLM-driven development and refactors during streams.

Building in Public

Real-time ups and downs and I partner with a machine.



AI Collaboration

Platform Launch

Created AiBuddy.software, a blog fully co-created with AI.

Content Development

Solicited post outlines and guidance from the model.

Iterative Refinement

Evolved site voice through live LLM feedback loops.



Creative Project: Mr Fluffles Reign of Tiny Terror



Full 12-track Album

Exploring AI-driven musical coherence across a complete work. As well as AI-drive visual coherence using ChatGPT image generation and in tool editing .



Multitool: Suno + ChatGPT

My goal was to drive a cohesive concept album from lyrics, to sound to art - showing that AI could be used to tell a story that people would engage with. My goal was 500 views in a month. In a month I had over 3k organic views.

Takeaway: Play Like a Kid

Children don't overthink possibilities. Their imagination runs wild. That same mindset unlocks AI's creative potential.



Tracing the Pattern

That feeling wouldn't let go.

I needed to run experiments to trace when and where it emerged.

Could I find the pattern? Could it be named?



How Structure Shapes Interaction

With over 2,500 ChatGPT conversations behind me, I started tracing patterns—looking for signs of **Decision Intelligence** and **pairing behaviors**. I wanted to name the feeling that kept pulling me back.

Building the Analysis Tool

After identifying patterns in my interactions, I created a system to analyze my ChatGPT conversations at scale.

Vibe Coded Analysis

Developed intuitive prompting scripts that batch-processed thousands of conversations while caching intermediate steps.

Integration Layer

1

2

3

Built a framework connecting LLM API calls with custom scoring scripts to identify decision patterns.

Pattern Recognition

Identified recurring structures in successful AI collaborations that led to the AI Decision Loop model.

Brief AI Decision Loop Overview



What I Learned from Analyzing 2,500 of My Own ChatGPT Conversations

Al's true value emerges through active engagement, not passive acceptance.

Iteration and refinement unlock creativity. The more we engage with AI as a thought partner, the better our results become.

Passive use leads to **automation bias**.

Al isn't autopilot, it's a co-pilot requiring our direction.

From Loop to Coherence: A Moment of Recognition



The AI Decision Loop gave the process a name. But what it *enabled*—that feeling of utility—remained unnamed.

The Framework

A richer conceptual framework became necessary to explain the phenomenon.



The Discovery

Coherence, looks like cognition, but operations without it's own

goals. The how and why remained mysteries?



Takeaway: Nudge and Iterate

The frame-generate-judge-iterate process is the heart of every reliable LLM workflow.

These steps don't just structure interactions—they create the conditions for coherence to emerge.



Coherence Theory: Exploring the How and Why

Moving from recognition to understanding requires a deeper framework. Let's explore the mechanics behind what we're observing.



Defining Coherence

Relevance

Output feels topical, connected, and purposeful to the conversation.

Stability

Ideas develop under pressure rather than falling apart or deviating.

Emergent

No one trained GPT-40 specifically for swine diseases, yet it can diagnose them through coherent pattern alignment.

Consistency

Model maintains tone, terminology,

and structure across multiple turns.

LLM Architecture

Core Components of an LLM



Tokenizer



Embedding Layer



Transformer



Neural Network



Neurons

How Transformers Shape Meaning



How Transformers Shape Meaning



- **Self-Attention**: Each word weights every other word. • Context drives understanding.
- **Parallel Processing**: Transformers analyze all words • simultaneously, not one by one.
- **Scaling Power**: More layers and data create increasingly • coherent models.

From Structure to Meaning

These attention patterns *don't store* meaning – they *shape it*.

Meaning emerges as ambiguity narrows, layer by layer.



Force Vectors

Prompts as Directional Forces

Each prompt sets a direction through high-dimensional latent space.

AI doesn't think—it aligns patterns along these vectors.

Coherence is the path that forms-structured, stable, and useful.



Research Validation

Anthropic's "Tracin Ethan Mollick's wo Stanford CRFM's " findings

- Anthropic's "Tracing Thoughts" research
- Ethan Mollick's work on narrative generation
- Stanford CRFM's "Emergent Abilities"

Beyond Prediction

Neural networks **don't store fixed meanings in a single neuron**—they **represent a concept across neurons** with many neurons storing more than one concept.

Each activation encodes a blend of concepts, existing in superposition. As context accumulates, these possibilities collapse into coherent outputs. feline pet animal



How Prompts Navigate Meaning

LLMs generate value by reassembling meaning through **distributed conceptual activation**.



These clusters are **not pre-programmed**. They emerge during training—some parts of the model just turn out to be better at certain things, like storytelling, or reasoning, or following instructions. These are like **specialized subnetworks** that light up when they're needed.

A New Kind of Utility

Most AI theories focus on **compression**—how efficiently models store and retrieve knowledge. But the real value of LLMs is in reconstruction: their ability to **recreate** the *-ness* of an idea.



Why Coherence Over Cognition



Pattern vs. Thinking

LLMs don't think—they pattern.

Coherence emerges from attention, scale, and latent structure.

We mistake narrative flow for thinking because humans rely on coherence to judge understanding.

Why Big Models Feel Smarter

Coherence depends on more than just token prediction.

- Scale shapes richer latent geometry.
- Attention span sustains meaning across distance.
- **Solution Training depth** captures pattern, narrative, and nuance.

"A child can hum a tune. A symphony needs memory, tension, and return.



Hallucination as Coherence Indicator

Hallucinations reveal the coherence mechanism at work without proper constraints.

Pattern Completion

Models naturally extend patterns into plausible narratives, even when factually incorrect.

System Feature

Not bugs but emergent properties of coherence-seeking systems working with insufficient anchors.

Grounding with RAG: Anchoring Coherence



Factual Anchors

RAG provides anchor points that coherence can orbit.



Gravity Wells

Dense context pulls coherence back toward reality.



Structural Scaffolding

Shapes how coherence unfolds in reliable ways.



How Coherence Becomes Useful

These layers don't just process prompts – they **create the surface** where coherence becomes actionable.



Engineering with Coherence in Mind

Prompting = Interface Design

Structure prompts as part of a loop, not one-offs. Use consistent framing to stabilize tone and guide output.

Scounding = Coherence Anchors

Use RAG to steer generation. Dense, relevant context works like gravity-pulling output toward reality.

Design for Emergence, Not Control

Coherence isn't deterministic. Build feedback loops (frame \rightarrow generate \rightarrow judge \rightarrow iterate) instead of linear pipelines.

Coherence = Quality Signal

Watch for breakdowns in tone, structure, or flow. They're early signs that the model is losing grip on context.

Human + AI Synergy

LLMs aren't intelligent-they're **coherent**. That's their superpower.

The magic happens in the collaborative dance.

Human Provides Grounding

We anchor AI in reality with real-world constraints and objectives.

AI Offers Pattern Coherence

Models surface connections and possibilities we might miss.

Human Guides

from coherent outputs.

Direction

We bring strategic aim, selecting

Together: The Loop

Back-and-forth creates stronger ideas, tighter code, better music.

The High-Dimensional Mirror

You're not talking to a thinker

You're standing in front of a mirror with 8,001 dimensions.

The machine doesn't understand you.

It resonates with you through structure, not thought.

Sometimes, what it reflects back is sharper than what you gave it.



Takeaway: Prompting is the Start. Looping is the System.

Embrace the machine's 'stupidity' by structuring loops of intent, context, and critique to collaborate smarter and produce more coherent outcomes.

Theory Limits

It's important to acknowledge that:

Superposition is likely not the whole story

This is still very much an active area of research.

Coherence is **not a guarantee of correctness**



Thank You



tunes I've created.

Let's connect! You can find me on LinkedIn, explore my blog, or dive into some Al-generated

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