



The Human Element ---

How we Collaborate to build trustworthy AI

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@PLNech



I teach *machines*
to serve **humans**



*Making **AI** speak **human**
fluently*

Maria Lungu
Software Engineer
 algolia



@marialungu



We're from Algolia

Context

Building AI products for **millions** of users

Our quest

Find how we can have both **powerful ML** and **great UX** in an AI product

Our challenge

ML and UX speak different **languages**, prioritize different **outcomes**, measure different **metrics**



North Star

Building AI-powered products
that truly serve people



Where we stand

ML: AI should be invisible

Best AI experiences are “like Magic”: they fade in the background

“Any sufficiently advanced technology is indistinguishable from magic.” -Arthur C. Clarke.





⭐ North Star of ML ⭐

Use AI to radically **enhance**
human capabilities

All we have to **decide** is **what to do**
with the time that is given us.

- Gandalf's perspective

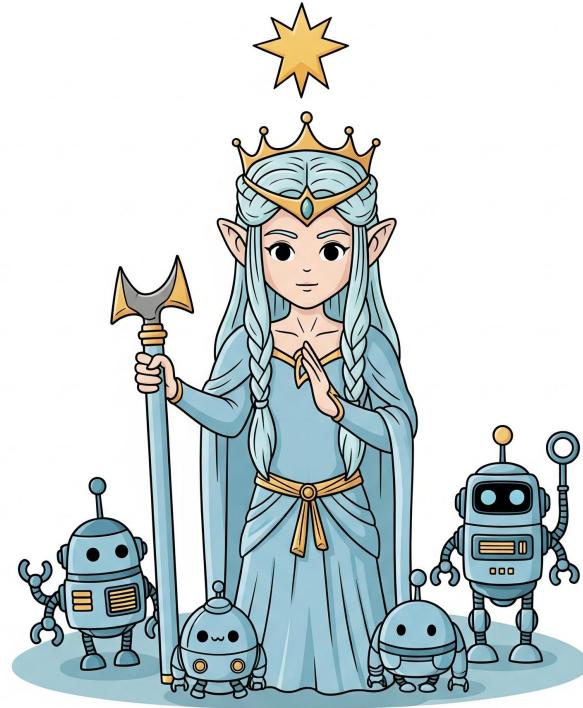


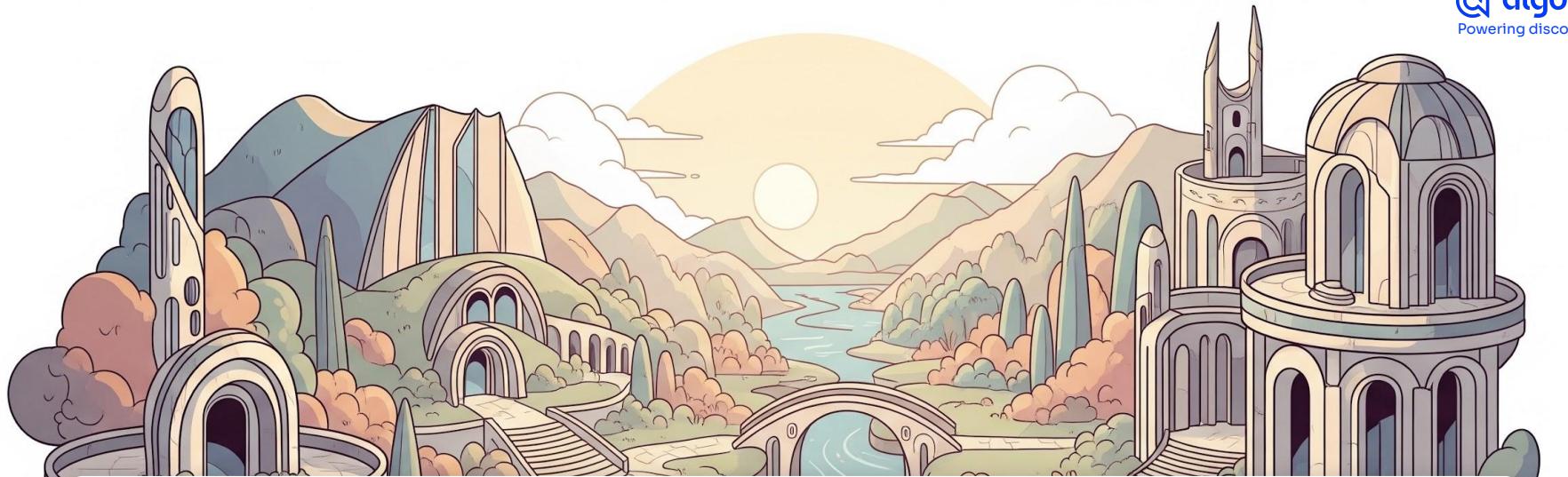
UX: Guard human values

Building AI-powered products
for humans' well-being

🌟 North star of UX 🌟

“If AI doesn’t work for people,
it doesn’t work”





Much that once was lost, for none now lives
who **remembers** it.

- Galadriel

The battle

Battle 1. Friction vs. Flow

Should AI pause to ask permission?

Browse categories ▾

Home

Catalog

Blog

About us



MacBook Sale

Up to 25% of the latest Macs

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TV & Home Theater

[← Back](#)

TV & Home Theater ultimate guide

Get to know the features and benefits of Smart TVs. Learn how to connect to the internet, stream your favorite shows, and use apps directly from your television.

[Read more](#)

Understanding Smart TVs

Learn about the features of Smart TVs, their internet connectivity, and the variety of streaming services they support.

[Read more](#)

Smart TVs: What You Need to Know

Learn about the features and benefits of smart TVs, including streaming services, apps, and more, to determine if a smart TV is right for your home theater.

[Read more](#)

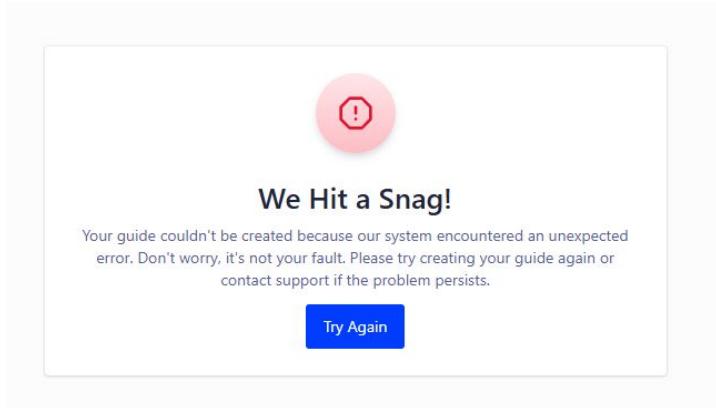
Exploring 4K Television Features

Discover the benefits of 4K resolution and how it enhances your viewing experience. Learn about the technology behind it and what to look for when purchasing a 4K TV.

[Read more](#)[Give us feedback](#)[Get expert help...](#)[I'm interested in chromecast](#)[I'm interested in fire tv](#)[I'm interested in remote](#)

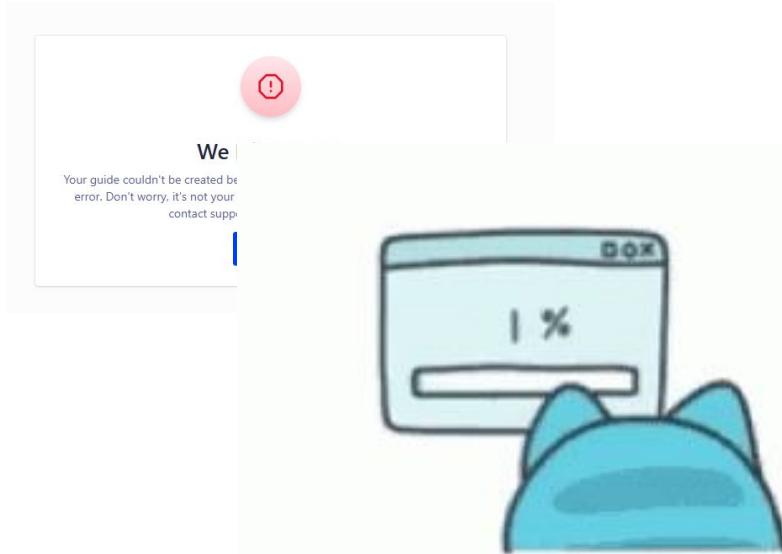
The Counter-Intuitive Truth: Not All Friction is Bad

Calibrate trust using explanations



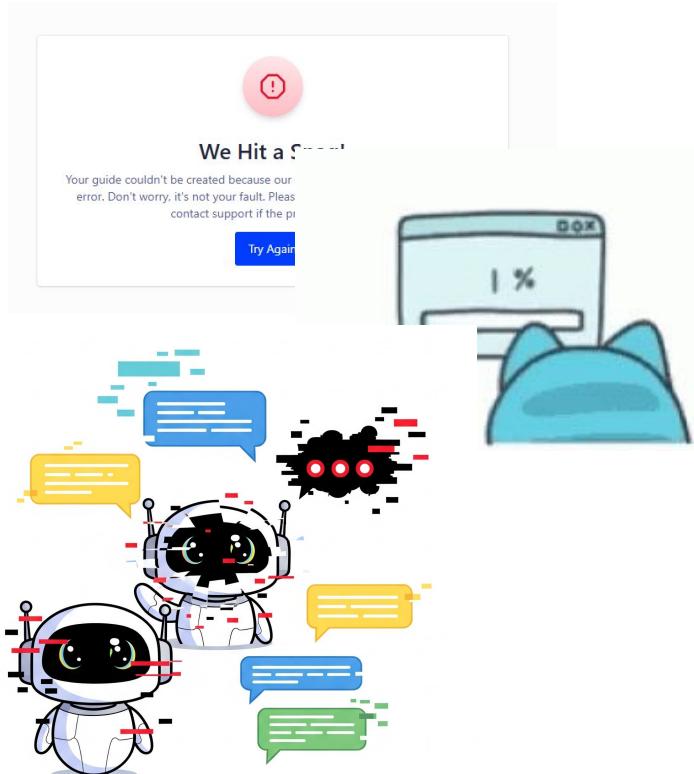
- **Opaque errors**

Calibrate trust using explanations



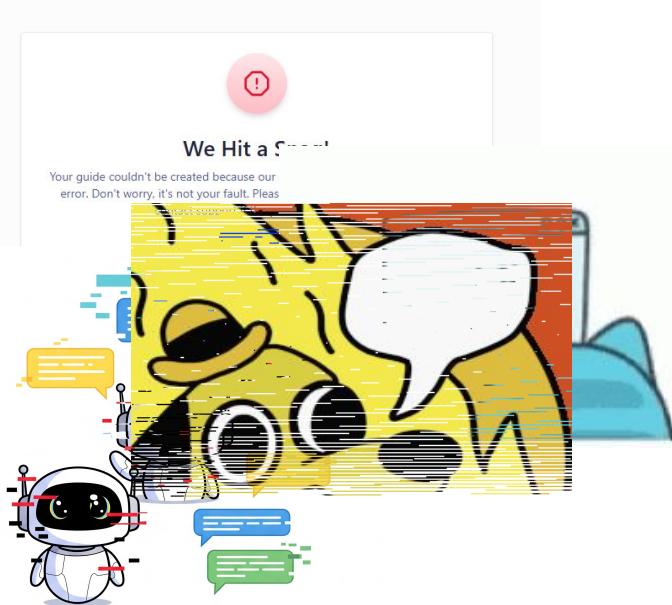
- Opaque **errors**
- Perceived **latency**
- Perceived **loss of control**

Calibrate trust using explanations



- Opaque **errors**
- Perceived **latency**
- Perceived **loss of control**
- Susceptible to **hidden errors**

Calibrate trust using explanations



- Opaque **errors**
- Perceived **latency**
- Perceived **loss of control**
- Susceptible to **hidden errors**

Calibrate trust using explanations



What's the difference between nikon Z and the d780

Show thinking ▾

That's an excellent question, as the Nikon D780 holds a unique position, acting as a bridge between traditional DSLRs and Nikon's mirrorless Z-series. While the D780 is still a DSLR, it incorporates significant mirrorless technology.

Do any of those sound like they would fit your needs?

Sources

Like Dislike Comment Share More



Take your guides a step further

Tailor headlines and content that capture attention and engage your readers effectively.

Choose a category

Nikon

A nikon d780 main digital camera

Choose a language

English

We recommend

Custom prompt

Something bad was written here

Close

Unable to generate headlines

We're unable to generate headlines because restricted content was detected in one or both of the following:

- Records from the selected categories
- Manual input in the "Custom prompt" field

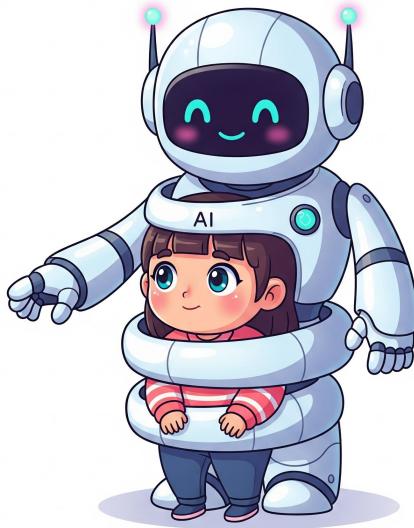
Please adjust your records and/or prompt.

!

Your message will exceed the length limit for this chat. Try shortening your message or starting a new conversation.

×

Friction prevents over-reliance



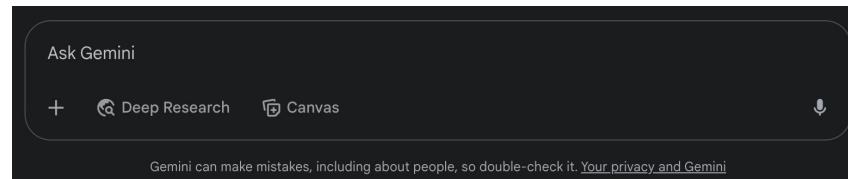
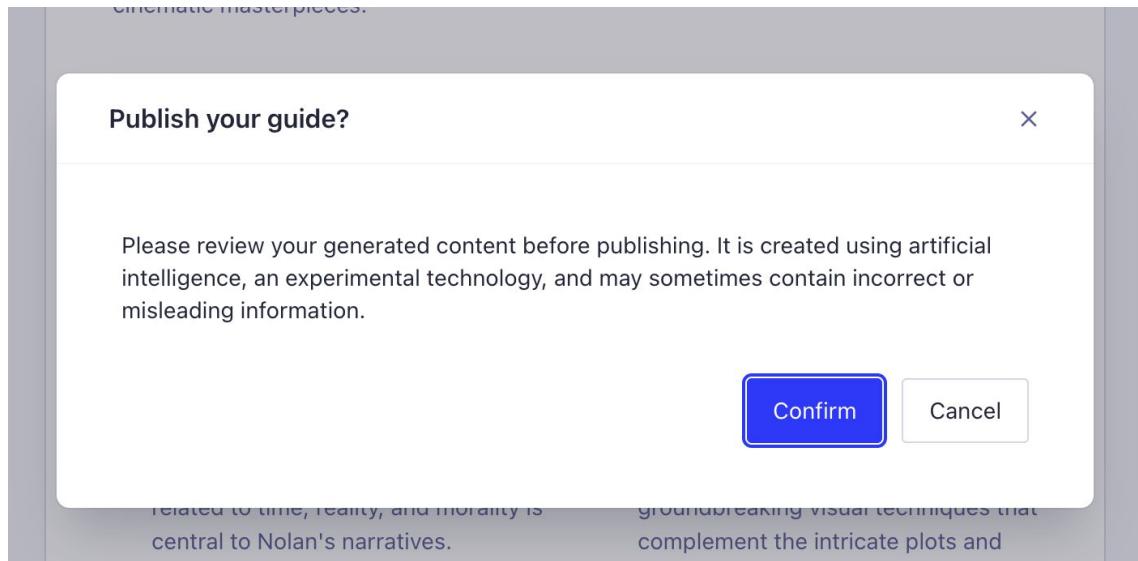
- Perpetuate **misinformation**
 - **Algorithmic flaws** become **our own**
- Decline in **human expertise**
 - **Erosion of critical thinking**
- Lack of **accountability**

Strategic Friction



- Add **control points**
- Encourage users to **pause** & **reflect**
- Bring back **responsibility**

Strategic Friction: in practice



Bonus: Perfecting AI magic



Strategic **feedback** gathering

=

valuable **insights**

=

better AI long-term

UX Goal: Design for Trust and Reliance



Deliberate friction builds
trust and helps users avoid
over-reliance

ML Goal: but we said we want magic?

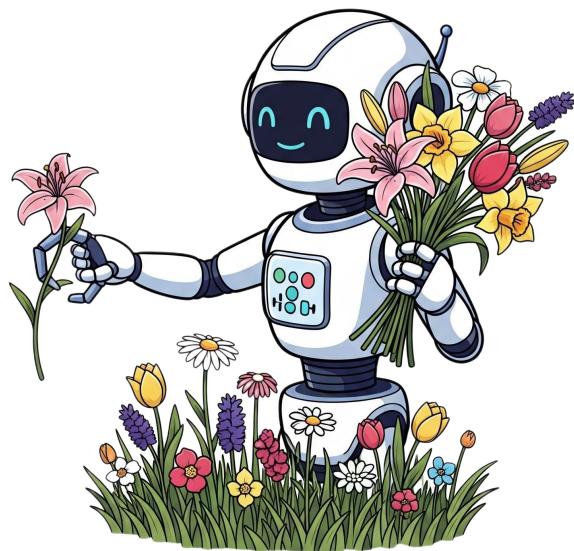


You want magic AI feature

We'll collect all the data we could need, right?



ML: we should not think before collecting



Data Collection should be the default

We need **extensive data** in order to measure, track, optimize everything

Opt-out == 3-4x more data than opt-in

ML: many search features are “magic”



Learning to Rank



Personalized Search



Automated Synonyms

...

Magic is never free 💰



So we can't ask users

We should not depend on
users decisions:

- Learn from **implicit signals**
- Continuous **feedback loops**

Less friction == more data

Friction vs. Flow



Verdict: Truth is in the Middle Way



Key: Progressive feedback

low stakes = low friction

high stakes = high friction

Batte 2. Promise vs. Reality

Can we simply ship a lab prototype?

Analyzing image details for country/city identification

10s

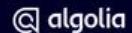
I'll analyze this image systematically and use web search to help identify potential clues about the location.

- modern conference room exposed ductwork industrial design white walls abstract a... 10 results
- The search results show that this type of industrial-chic conference room design with e... 2s

Let me search for more specific design elements and regional characteristics that might help narrow down the location.

- fire extinguisher wall mount industrial office design regulations by country 10 results
- Searching for region-specific architectural design clues 3s
- scandinavian nordic office design exposed ductwork minimalist conference room 10 results
- Probing architectural details for location identification 3s
- tech startup office conference room exposed ceiling berlin copenhagen stockholm 10 results
- The search results mention several Nordic tech hubs and co-working spaces in Copenha... 4s
- textured white wall art conference room abstract pattern 10 results
- The textured wall art searches didn't give me specific location clues. 1s
- innovation lab incubator space conference room "exposed ceiling" europe 10 results
- Analyzed design trends to pinpoint conference room's global location. 6s

all of it



Based on my extensive research using web search tools, I've analyzed this modern conference room from multiple angles, but I need to be honest: **I cannot definitively determine the specific location of this space.**

Here's what I can tell you about the design and where it's most likely to be:

Most Probable Regions:

Nordic Countries (Denmark, Sweden, Norway) - This industrial-minimalist aesthetic with exposed ductwork, white walls, and natural wood is extremely popular in Scandinavian tech and innovation spaces.

Germany (particularly Berlin) - The tech startup scene there heavily favors this exact style of industrial-chic conference room design.

Bay Area 

ML Goal: bring it all... and accelerate

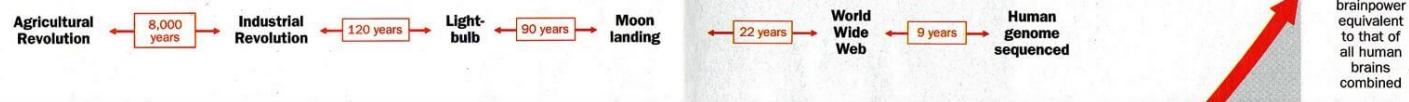
AUTOMATE



ML Goal: bring it all... and accelerate

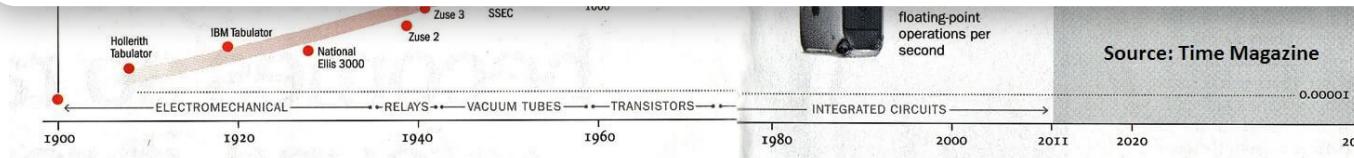


1 The accelerating pace of change ...

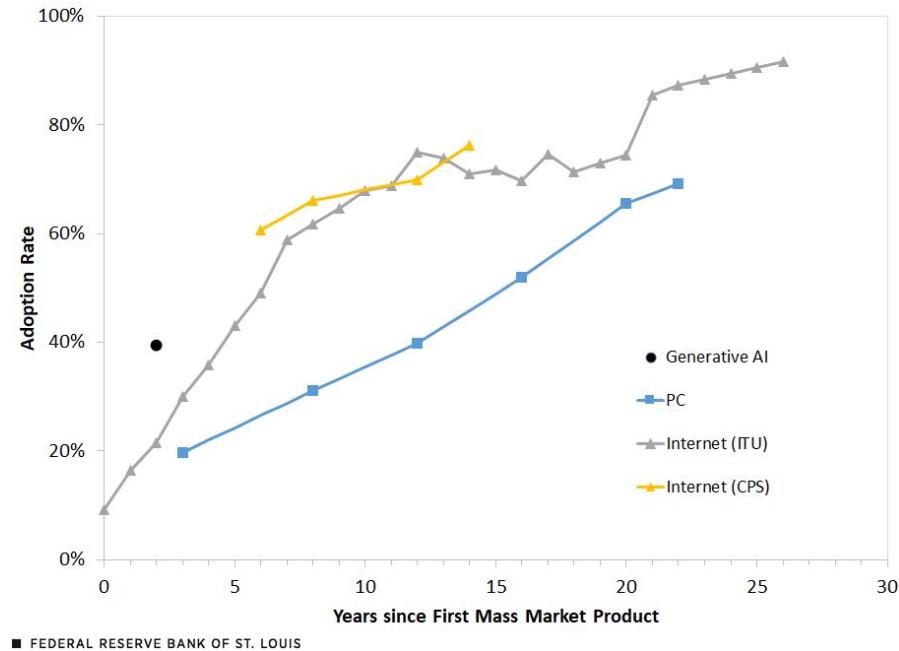


“Our intuition about the future is **linear**.
But the reality of IT is **exponential**, and that
makes a profound difference.”

“If I take 30 steps linearly, I get to **30**.
If I take 30 steps exponentially, I get to **a billion**.”
– Ray Kurzweil



ML Goal: accelerate - we're already doing it



See [The Rapid Adoption of Generative AI | St. Louis Fed](#) 

UX: Reality is not SOTA



Lab conditions don't reflect
human complexity

UX Goal: Reality is not SOTA

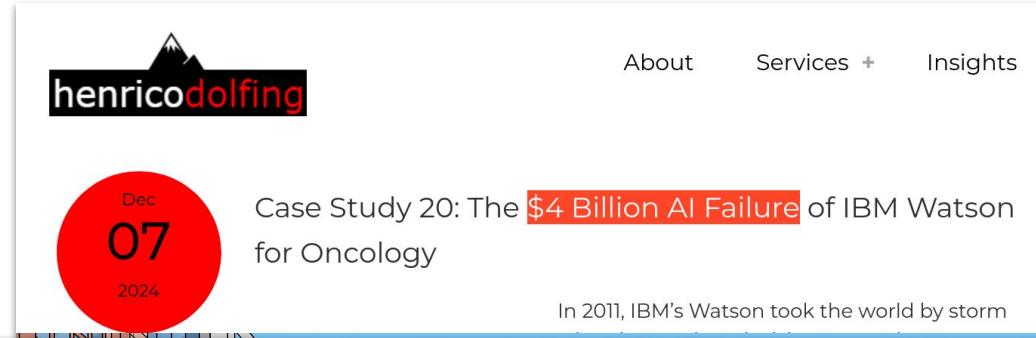


Cultural subtext?

Sarcasm?

User intent?

Datasets meet reality



The screenshot shows a website header with the logo 'henricodolfin' featuring a mountain icon above the text. The main navigation menu includes 'About', 'Services +', and 'Insights'. Below the header, a red circular badge displays the date 'Dec 07 2024'. To the right of the badge, the title 'Case Study 20: The \$4 Billion AI Failure of IBM Watson for Oncology' is shown in a large, bold font. A subtitle below the title reads 'In 2011, IBM's Watson took the world by storm'.

However, this ambitious vision quickly collided with the complex realities of cancer care, resulting in widespread criticism and eventual failure.



It goes both ways



Teach AI systems about
the users

Allow users to **correct**
AI systems

UX Goal: Design for Mental Models

Build **mental models**
through **progressive disclosure**
of AI features



Promise vs. Reality



Verdict: Context is essential for Innovation



Real users are not datasets

User context is essential to validate innovation

Move fast, yet progressively disclose capabilities

Automate after **educate**

MARIA

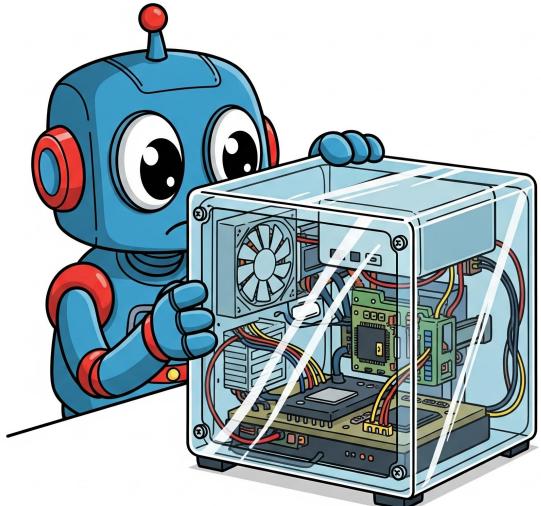


Battle 3. Transparency vs. Magic

Should users see
how the (AI) sausage is made,
or does that break the spell?



Transparency empowers co-creation

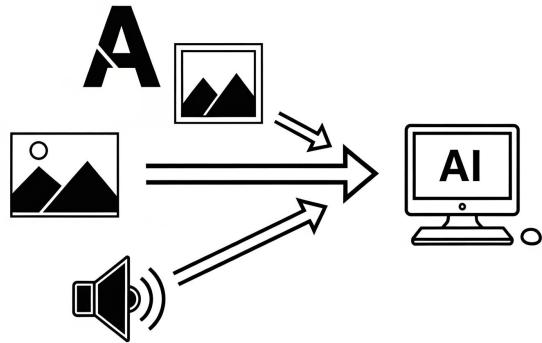


Support for **iterative work**

=

Building long term **trust**

Focus on inputs



Design for **generative variability** 🎁

Visible **uncertainty**

In the wild

algolia

Welcome to AI Studio

Brainstorm 5 unique app ideas for sustainable living →

Run

What's new

- URL context tool** New
Fetch information from web links
- Native speech generation** New
Generate high quality text to speech with Gemini
- Live audio-to-audio dialog** New
Try Gemini's natural, real-time dialog with audio and video inputs
- Explore and co-develop apps**
See Gemini in action with interactive, open source examples

Gemini 2.5 Pro

Token count 0 / 1,048,576

Temperature 1

Thinking

Thinking mode

Set thinking budget

Tools

Structured output Edit

Code execution

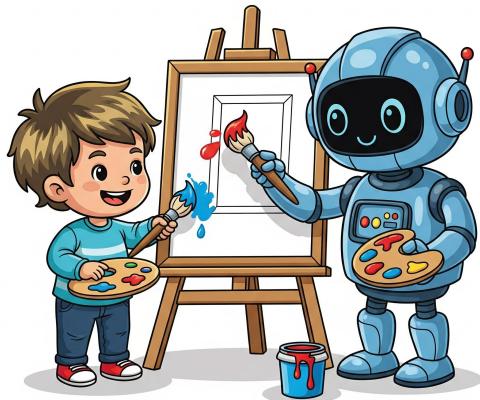
Function calling Edit

Grounding with Google Search

URL context

Advanced settings

UX Goal: Design for Imperfection & Co-creation



Users are **partners** with AI
not **passive consumers**

ML Goal: Invisible



Google AI Studio

Untitled prompt

Get API key Studio Dashboard Documentation

Run settings

Gemini 2.5 Pro

Token count 0 / 1,048,576

Temperature 1

Thinking

Thinking mode

Set thinking budget

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Code execution

Function calling

Grounding with Google Search

URL context

Advanced settings

Chat Stream Generate Media Build History Enable saving

Welcome to AI Studio

Create a detailed description of an alien planet. →!

What's new

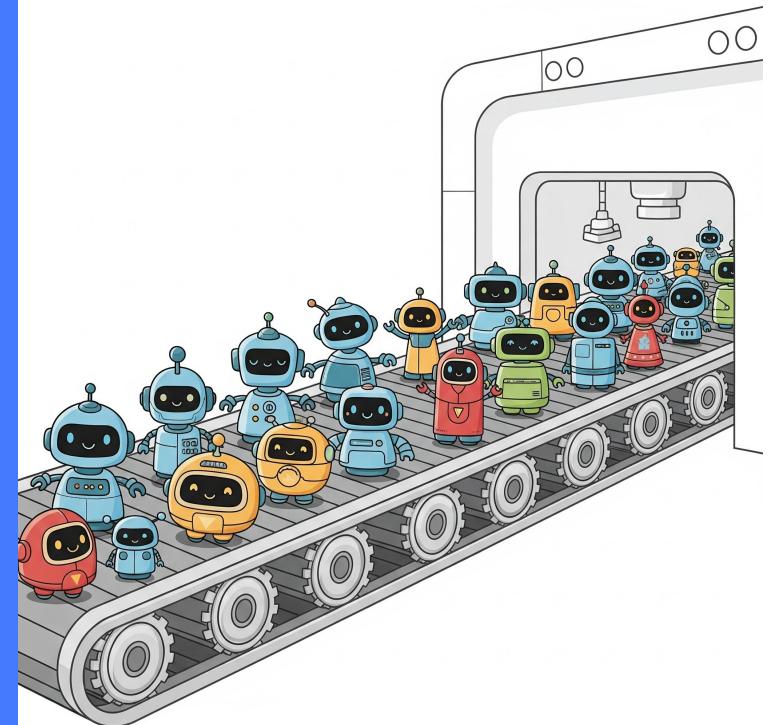
- URL context tool Fetch information from web links
- Native speech generation Generate high quality text to speech with Gemini
- Live audio-to-audio dialog Try Gemini's natural, real-time dialog with audio and video inputs
- Explore and co-develop apps See Gemini in action with interactive, open source examples

ML: we should trust our outputs

AI output should go live –
not in a marketer's email
inbox

Example: “Create guide”
should mean “done” 😊
Not “go proofread the AI” 😤

“Make sure it works” is not a
user problem, it's **our job** 🧑





ML: we should trust our outputs

@ algolia

**Trust comes via Reliability,
Not Explanations**

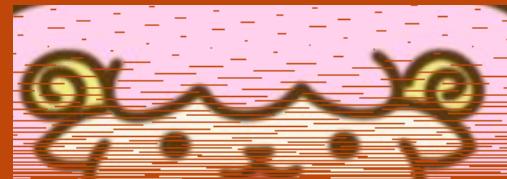
Users build trust through
consistent, reliable outputs



Intent should map
directly to **action**



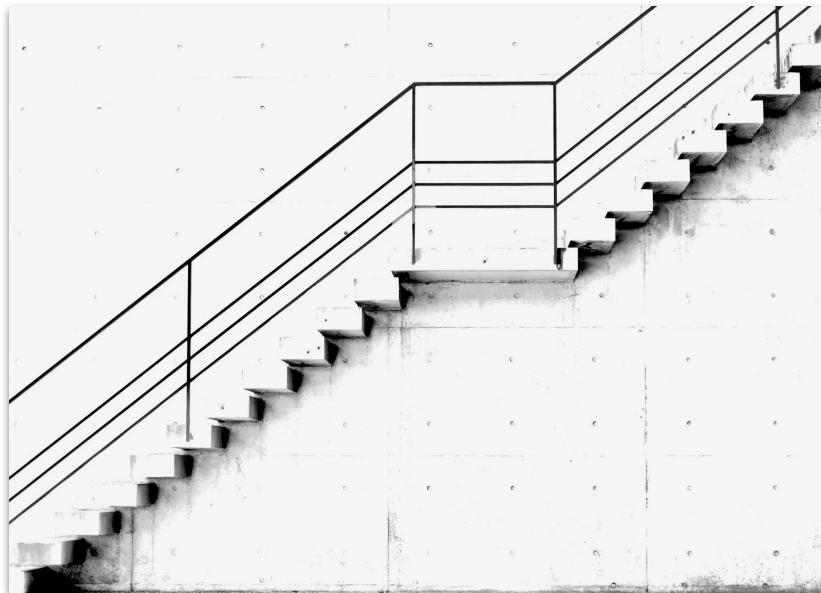
Transparency vs. Magic



MARIA



Verdict: Progressive Complexity



🤝 **Co-create with the AI**

🏗 **Build with progressive complexity**

🎯 **Focus on why, not how**

A scenic landscape featuring towering green mountains under a blue sky with white clouds and a flock of birds. In the foreground, a waterfall cascades down a rocky cliff. A large, solid blue rectangular box is centered over the middle ground, containing the text.

The wisdom

No **perspective** is superior to the other, nor should it be.

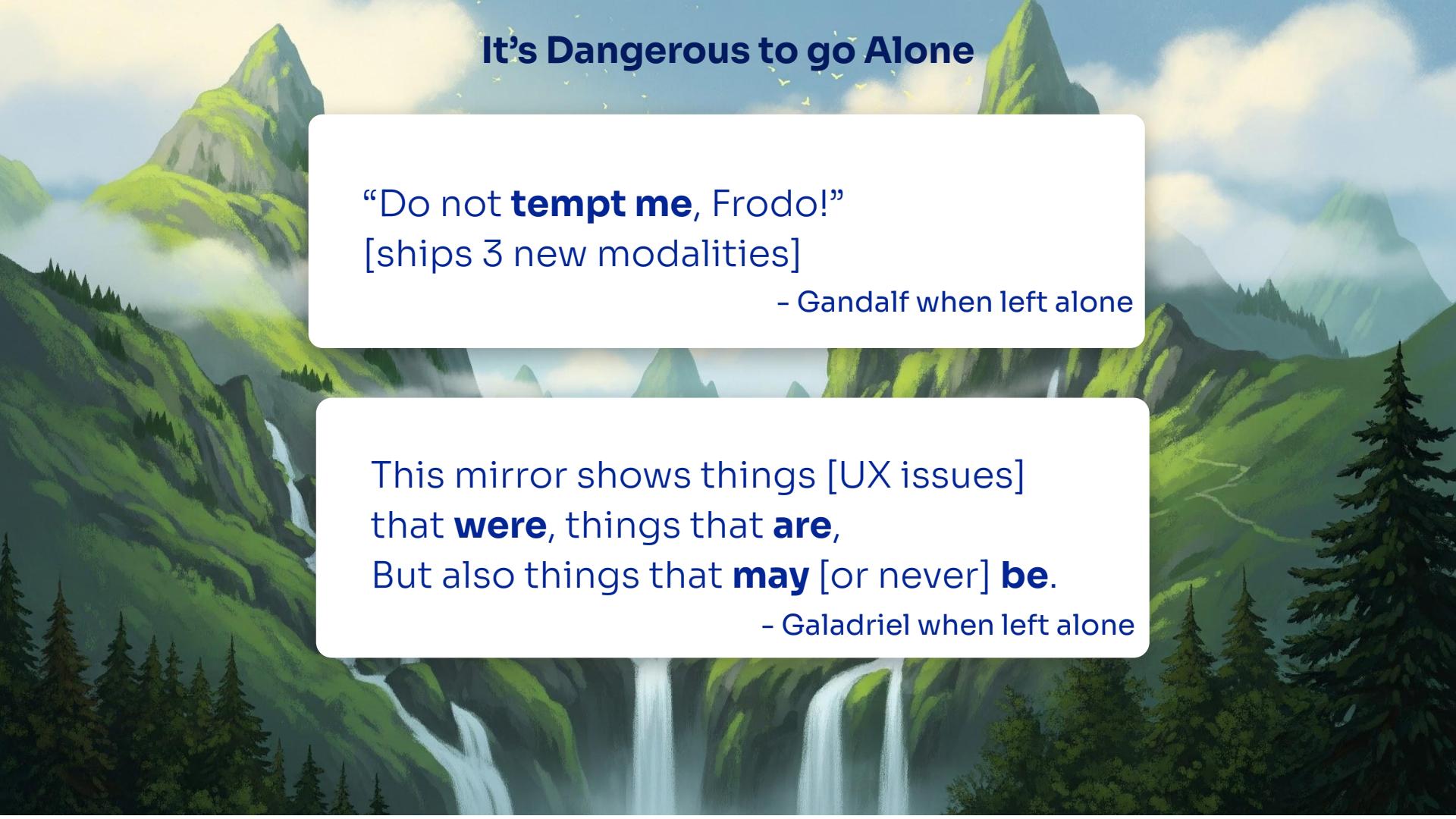
Building an AI product is not about whose viewpoint is better, but **who** you build it for.





- UX grounds ML in human reality
- ML pushes UX beyond traditional boundaries





It's Dangerous to go Alone

“Do not **tempt me**, Frodo!”

[ships 3 new modalities]

- Gandalf when left alone

This mirror shows things [UX issues]

that **were**, things that **are**,

But also things that **may** [or never] **be**.

- Galadriel when left alone

We're not competing—we're
completing each other.

ML provides the **intelligence**;
UX provides the **wisdom** to make it
meaningful to humans.

Thank you!

Ressources

- emojipedia.com // Emoji library
- emojis.com // Generate your own emojis
- unsplash.com // Free photos