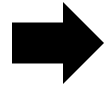


Artificial Intelligence Applied to Construction

You are looking for a **tool**



You need a **perspective**

We will use AI-based tools to internalize some concepts and also to improve our productivity in certain tasks, but this should not be your priority.

The key element is to understand the potential of artificial intelligence and how to leverage it for the benefit of society.

A revolutionary tool

- Artificial Intelligence is different from any other invention. It is the first tool in history that can make decisions on its own and create new ideas independently.
- Tools grant us power. AI could potentially take that power away. It could represent the end of an era dominated by human ideas.

AGI
Artificial General
Intelligence

Most threats are attributed to a possible general artificial intelligence, a technology that is still far off and should not be confused with the current state of AI.

Expectations

Currently, AI can generate code to significantly simplify the process of programming a software application. It is a fairly complex process, and it does it quite well.

We might think that if AI is capable of programming, it should also be able to generate plans, perform energy simulations, manage construction, and many other tasks related to construction.

Each year, the architecture industry wastes countless work hours solving problems that have already been solved repeatedly. They are constantly reinventing the wheel by not reusing construction information from existing projects, whether from their own practice or the industry at large.

Instead of taking advantage of the extensive knowledge contained in previous projects and practices, hundreds of thousands of current architects continue to rely solely on their personal experience or that of their closest colleagues. This trend is reinforced by reliance on BIM tools, which primarily require manual input and do not provide adequate guidance to ensure optimal architectural outcomes.

You might find a specific tool to create blueprints, optimize structures, design the optimal number of parking spaces, or conduct energy simulations... but there is nothing truly robust that constitutes a clear productivity breakthrough.

Other industries

Why do you think programming tools work quite well, but those for architecture and construction are less effective?

Expectations

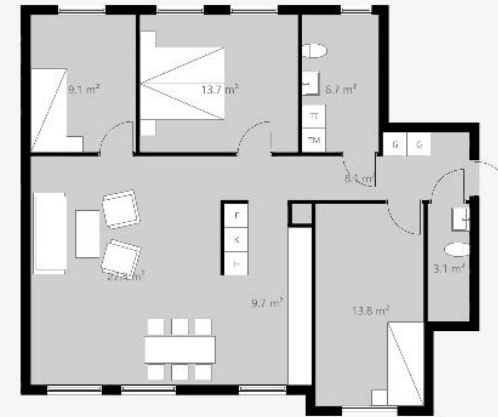
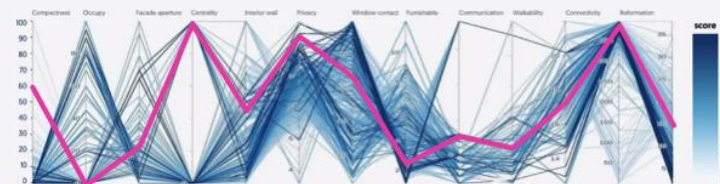
Access knowledge

Design floor plans — we provide you with the knowledge

Speed up your design process by getting access to thousands of existing floor plans which adapts to your design. Spacio is trained on a vast training set of floor plans in order to automate and assist the design process. Make informed decisions by exploring variations and get an insight into the possibilities of your project.



Space qualities



Expectations



Blazingly fast

Real time simulations

Robust and super fast simulations. Deliver better buildings and make an impact with real-time simulations. Spacio is a platform that connects the dots across building performance.

Daylight Factor %



Smart sketching

Easily edit, add or remove volumes

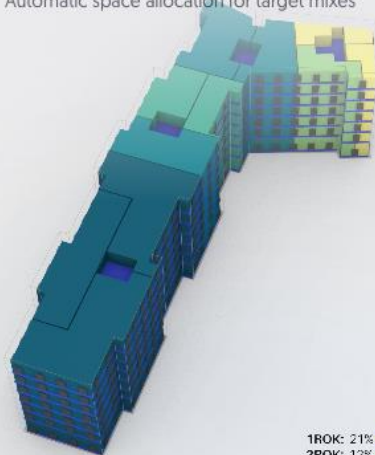


Generative design



Space allocation

Automatic space allocation for target mixes



1ROK: 21%
2ROK: 12%
3ROK: 24%
4ROK: 30%
5ROK: 13%

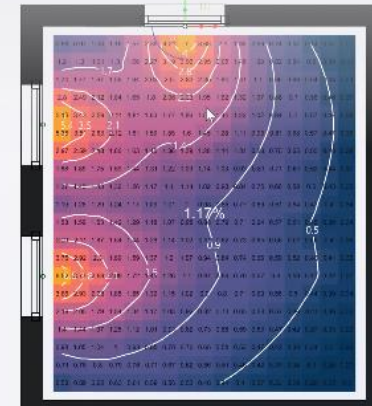
Adaptive parking

Underground and ground parking in seconds



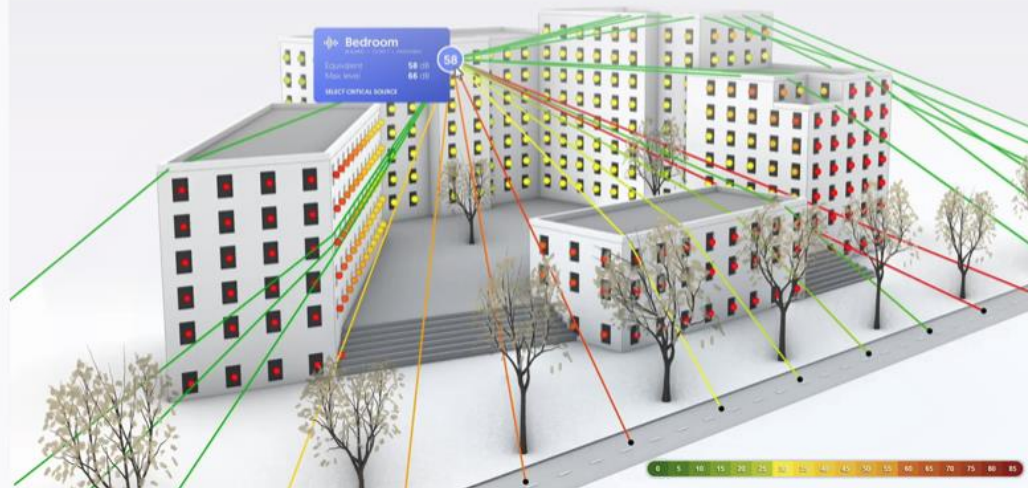
Daylight

DF, DA, UDI, VSC, sun hours, solar radiation, PV panels



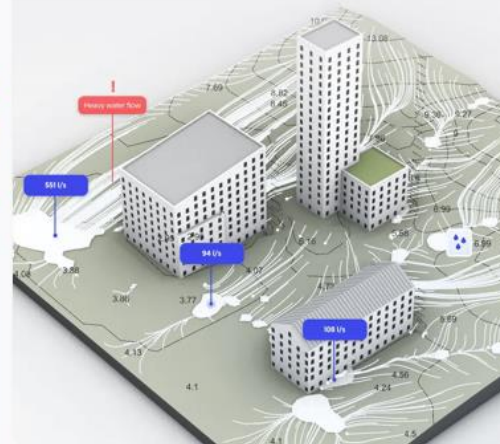
Noise

Get instant noise predictions



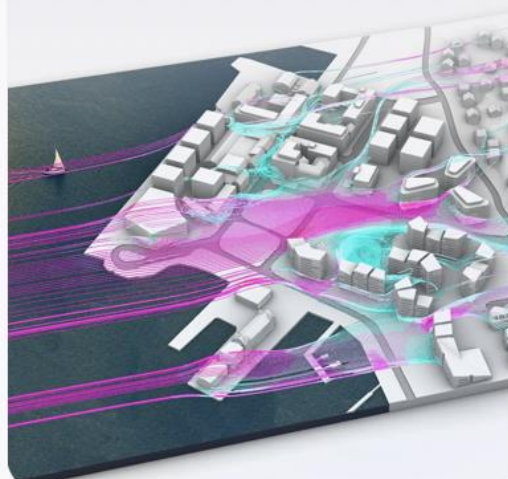
Storm water

Calculate runoff conditions and stormwater flow



Wind

Airflow and microclimate simulations



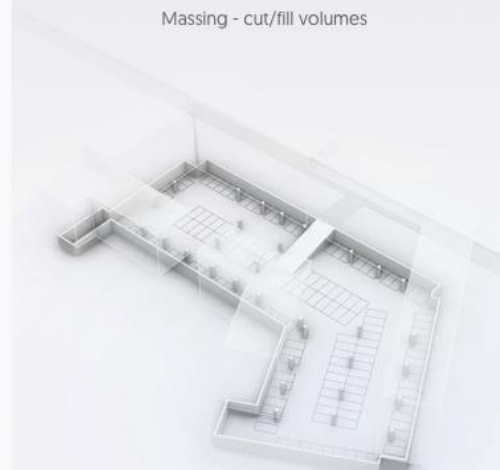
Energy

Direct export to Simien Energy



Landscape

Massing - cut/fill volumes



Reality

- If a company focuses on using all the AI-generated blueprint tools and tries to adapt its processes to existing tools, it is not preparing for the future. It is preparing for failure.
- We need to understand the economic motivations behind so much AI hype.
- We are more interested in defining smaller processes:
 - How do I acquire a client?
 - How do I understand what the client likes?
 - How do I generate initial ideas based on what the client prefers?

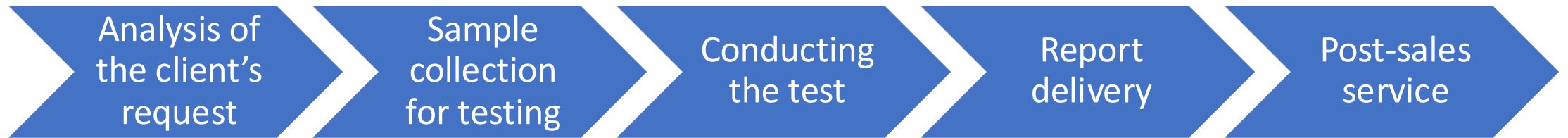
Companies preparing for AI

They make short-term sacrifices for long-term gains:

- They digitize processes.
- They collect data from various processes.
- They ensure the quality of this data.
- They keep an eye on existing tools to see if they can improve their processes.

Processes of a Company that Conducts Construction Material Testing

Operational Processes



Support processes

- Client acquisition
- Staff training
- Finance
- Etc.

Can It Be Applied to Any Field?

Actualidad

Inteligencia Artificial, así es el nuevo fichaje estrella del fútbol

* Cuatro clubes de primera división de LaLiga, como el Valencia CF, ya han introducido esta herramienta



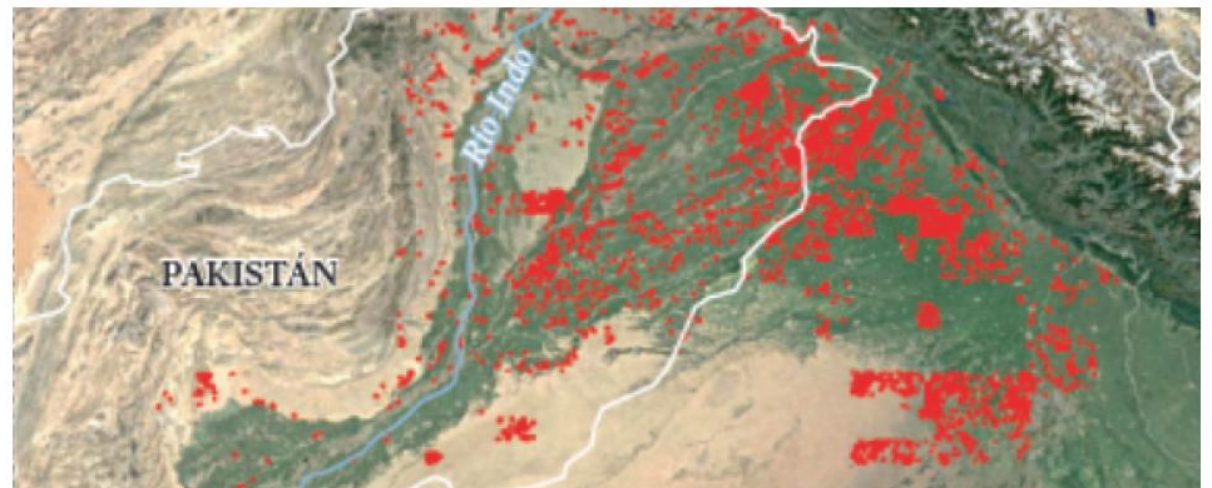
Ejemplo proporcionado por Dazn

ARQUEOLOGÍA

La IA revela 6.000 yacimientos en el valle del Indo



- El ICAC entrenó un algoritmo que revisó al milímetro los mapas de 375.000 km²
- La arqueología alza el vuelo



Adoption speed

Companies that aim to use AI in all their processes and automate everything

TOO SOON

Companies that wait until all technologies are mature and their usefulness is very evident

TOO LATE

Companies that find balance and make reasonable decisions at each moment based on AI advancements

JUST IN TIME

How Can We Leverage AI Now?

ADVANCED MODELS

Not under our control 😞

It is not our responsibility because it is not within our area of expertise.

However, each day we will have access to better models that will allow us to use progressively more useful tools.

QUALITY DATA

Under our control 😊

Having specific data about our business, our production processes, will be the key factor in taking advantage of increasingly advanced models.

We want a large quantity of high-quality data.

When to use ARTIFICIAL INTELLIGENCE

Using AI tools now

≠

**Preparing the company
for AI**

AI as a copilot

I ask ChatGPT:

"Give me an explanation of how to prepare a company to take advantage of artificial intelligence."

Observations:

- It doesn't care about the language; it understands me and will respond in the same language.
- I could have simply written, "How to prepare..." and I would have gotten the same result. But it understands what I'm saying, and the verbosity of my phrasing doesn't stop it from giving the expected result.



Fes-me una explicació de com preparar una empresa per poder aprofitar la intel·ligència artificial



Preparar una empresa per aprofitar la intel·ligència artificial (IA) implica diversos passos que abasten des de la planificació estratègica fins a la implementació pràctica. Aquí tens una guia pas a pas:

1. Entendre la IA i la seva aplicació:

- **Educació interna:** Assegura't que l'equip directiu i els empleats clau entenguin què és la IA i com pot beneficiar la teva indústria.
- **Identificar casos d'ús:** Identifica àrees on la IA pugui millorar l'eficiència o aportar valor. Això pot ser des de l'optimització de processos fins a l'avaluació de dades.

2. Avaluar les capacitats internes:

- **Habilitats de l'equip:** Avalua les habilitats del teu equip en termes de comprensió i implementació de la IA.
- **Infraestructura tecnològica:** Assegura't que la infraestructura actual de la teva empresa pugui suportar solucions basades en IA.

3. Recollir i preparar dades:

- **Qualitat de les dades:** Les solucions d'IA depenen de dades de qualitat. Garanteix que les teves dades siguin completes, precises i rellevants.
- **Governança de les dades:** Estableix polítiques clares sobre com s'han de recollir, emmagatzemar i utilitzar les dades, assegurant la conformitat amb les regulacions vigents.

4. Definir una estratègia d'IA:

- **Objectius clars:** Estableix objectius clars i mesurables per a la implementació d'IA, alineats amb els objectius empresarials globals.
- **Estratègia de desplegament:** Decideix si vols desenvolupar internament, col·laborar amb proveïdors externs o utilitzar una combinació de les dues opcions.

🔄 Regenerate

5. Formar el personal:

- **Formació tècnica:** Proporciona formació per a l'equip que implementarà i gestionarà les solucions d'IA.
- **Cultura de la innovació:** Fomenta una cultura empresarial que fomenti la innovació i l'experimentació.

6. Selecció de tecnologia:

- **Plataformes i eines:** Investiga i selecciona les plataformes i eines d'IA que millor s'ajustin als teus requisits.
- **Integració amb sistemes existents:** Assegura't que les solucions d'IA es puguin integrar fàcilment amb els sistemes ja existents.

7. Seguretat i Ètica:

- **Seguretat de les dades:** Implementa mesures de seguretat per protegir les dades de clients i empresarials.
- **Consideracions ètiques:** Estableix directrius ètiques per a l'ús de la IA i assegura't de complir amb les regulacions sobre privadesa.

8. Implementació i Iteració:

- **Fases de desplegament:** Implementa solucions d'IA en fases, començant amb proves pilot i expandint-se gradualment.
- **Retroalimentació i millora contínua:** Recull retroalimentació constant, analitza els resultats i millora les solucions d'IA.

9. Monitoratge i Manteniment:

- **Monitoratge del rendiment:** Estableix sistemes de monitoratge per avaluar el rendiment de les aplicacions d'IA.
- **Manteniment continu:** Realitza actualitzacions i manteniment per garantir que les solucions d'IA siguin efectives a llarg termini.

🔄 Regenerate

Why is it more important to learn general concepts rather than a specific tool?

- The tools that use AI will change significantly in a short time.
 - Right now, writing a good prompt can save a lot of time, but perhaps in a few months or years, it will become almost irrelevant.
- Learning how to perform a job that consists of repetitive tasks will become increasingly pointless.
 - Jobs that involve data coming from only a few specific sources, and where the result is more data, will eventually be automated; a machine will handle them.

Exercise: Analysis of Threats and Opportunities

Threats	Opportunities

Why do we want AI?

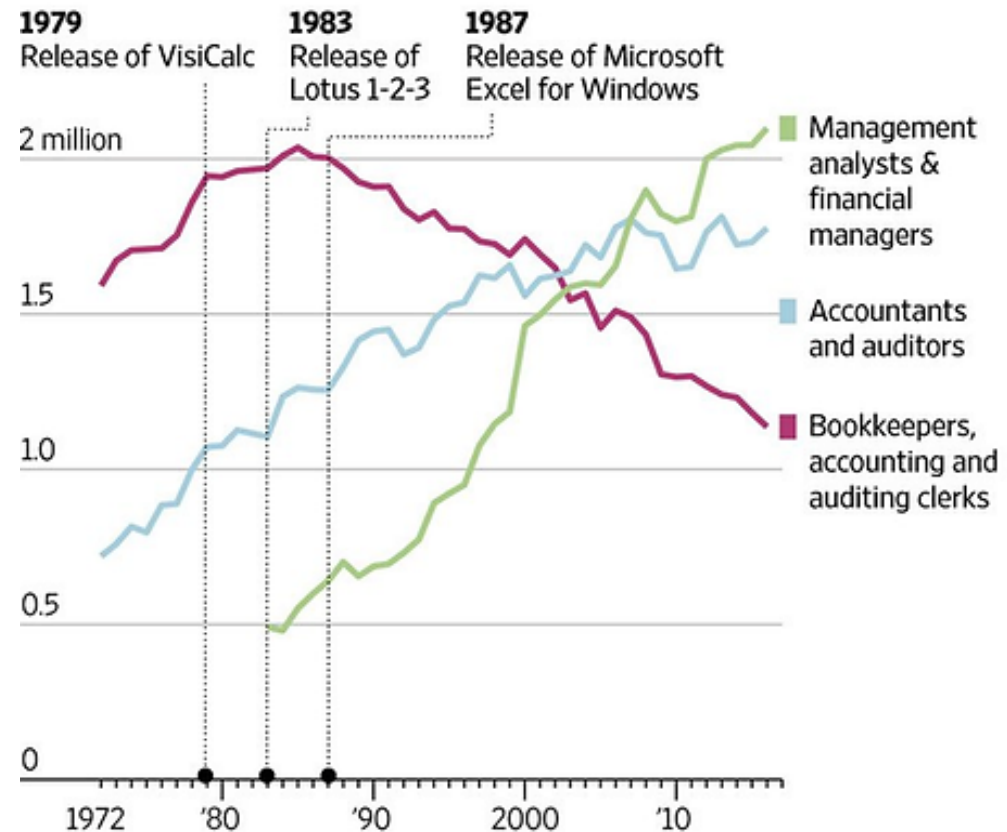
- Civilization wasn't built to have full-time jobs, but to reduce suffering. That's why we need to see AI as an opportunity.
- Many people don't feel good about their jobs; they're too hard, and we can improve this.
- It's a groundbreaking technology, a paradigm shift that will allow the expansion of human consciousness.

We shouldn't
fear having
better tools

The Spreadsheet Apocalypse, Revisited

VSJ: The Daily Shot

Jobs in bookkeeping plummeted after the introduction of spreadsheet software, but jobs in accounting and analysis took off.



Notes: There is no data for 1982. Changes in occupational definitions in 1983, 2000 and 2011 mean that data is not strictly comparable across time. There was no category for management analysts or financial managers prior to 1983.

Source: Bureau of Labor Statistics

THE WALL STREET JOURNAL.

Joan works in an office

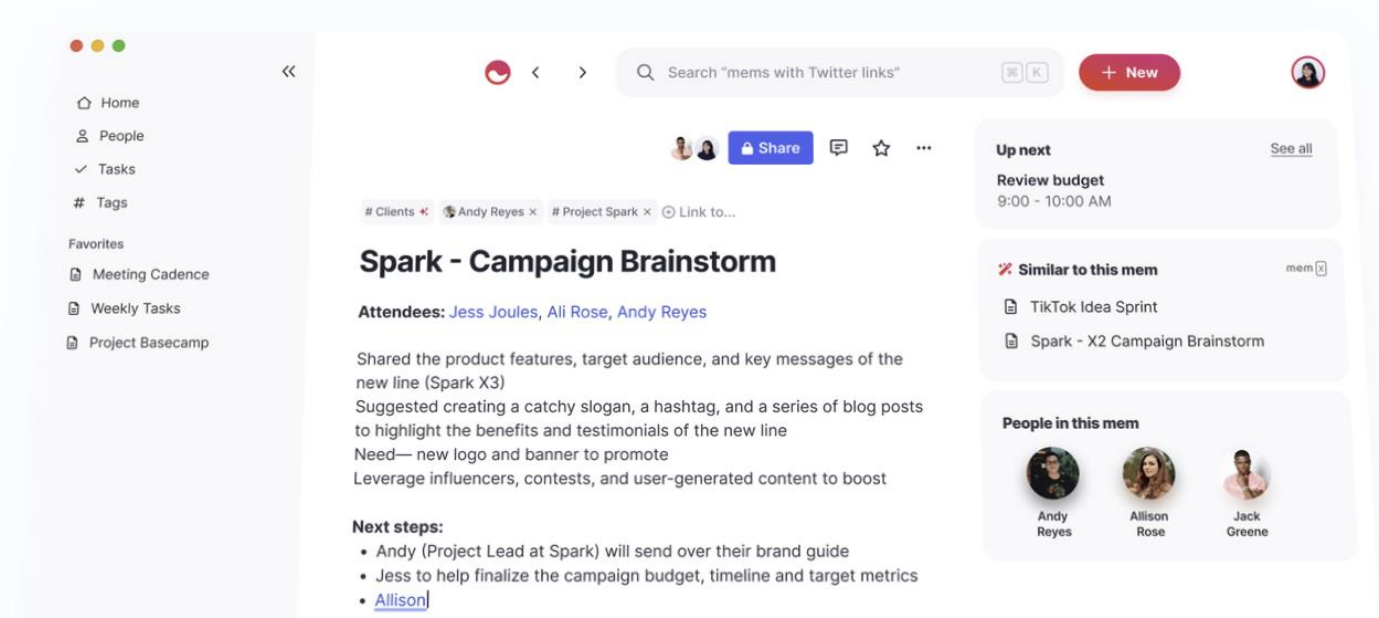
- Make me a list of the most important emails I've received since 5 PM yesterday.

MEM AI

The self-organizing workspace

Mem is the world's first AI-powered workspace that's personalized to you. Amplify your creativity, automate the mundane, and stay organized automatically.

Start for free



At 10 AM, he has a team meeting:

- Record the meeting, transcribe it, and summarize it into a list of key points.

SEMBLY AI

The screenshot displays the Semblly AI website and its user interface. The website header features the text "The smartest AI team assistant" and a sub-header "Semblly transcribes, takes meeting notes, and generates insights for your professional meetings". Below this, there are icons for various meeting platforms (Zoom, Google Meet, Microsoft Teams, etc.) and two buttons: "Try it FREE" and "Request a demo".

The interface shows a sidebar with navigation options: "My Meetings", "Shared With Me", "My Commitments", and "My Bookmarks". The main content area displays a meeting titled "Product marketing meeting" with a timestamp of "Jan 3, 2023 · 10:17 AM - 11:04 AM" and a status of "Completed". A "Glance" section provides a summary of the meeting content, including topics like "Product discussion on Azure boards", "Sales plays", and "Feedback for the new partner marketing manager".

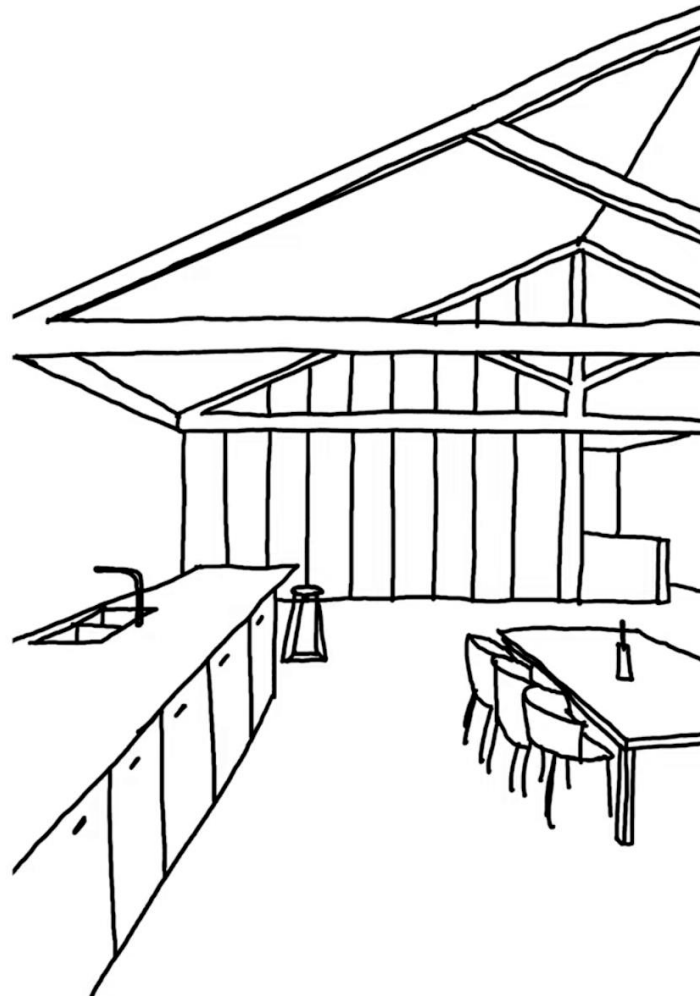
On the right side, there is a chat window titled "Semblly" with a "1357 credits left" indicator. The chat contains a greeting "Hi John!" and a prompt: "Happy to answer questions about the meeting or write original content based on what was discussed. Click for some suggestions." Below this, there are two example questions and their corresponding AI-generated answers:

- Question: "What were the key decisions made during my last meeting as a Product Manager?"
Answer: "Based on the meeting transcript, the key decisions made were to prioritize feature A over feature B in the upcoming sprint, allocate more resources towards testing, and schedule a demo for the stakeholders next week."
- Question: "Was there any discussion about the user feedback we received on our product during the meeting?"

Mireia needs to do an initial exploration of what the client wants

- Convert the sketch into a more realistic illustration.

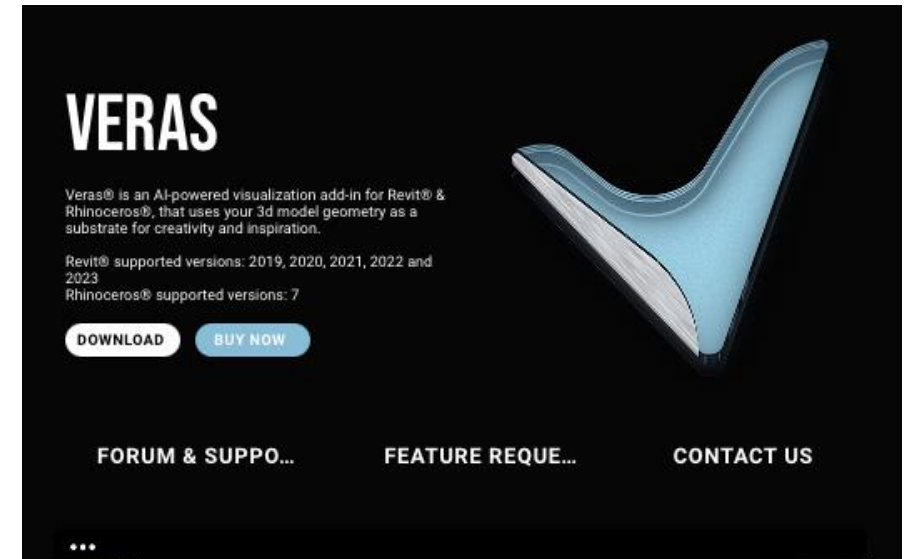
STABLE DIFFUSION



She also needs to render a Revit project

- Convert the Revit model into a visualization of a summer morning in the middle of nature, and another of winter.

VERAS



Marçal has questions about materials

- He asks Bing for quick answers

BING

The screenshot displays the Bing AI chat interface with three questions and answers:

Question 1: Cuál es el aislante térmico para edificios con menor impacto ambiental

Answer 1: Buscando: 'aislante térmico para edificios con menor impacto ambiental'. Generando respuestas para usted... Los aislantes térmicos de origen mineral son preferibles a los de origen plástico porque tienen un menor impacto ambiental. Además, los materiales de construcción de bajo impacto ambiental como el corcho son aliados perfectos de los aislantes térmicos para los cerramientos de los edificios. Por otro lado, el poliestireno expandido (EPS) es uno de los aislantes más utilizados por su densidad y baja conductividad térmica. Espero que esto te ayude.

Question 2: Lista los aislantes térmicos de bajo impacto ambiental en edificación

Answer 2: Buscando: 'aislantes térmicos de bajo impacto ambiental en edificación'. Generando respuestas para usted... Algunos de los aislantes térmicos de bajo impacto ambiental en edificación son los materiales de construcción de bajo impacto ambiental como el corcho, la lana de vidrio y lana de roca, el Panel Solado de ISOVER, entre otros. Espero que esto te ayude.

Question 3: ¿Qué es el Panel Solado de ISOVER?

Answer 3: Buscando: 'Panel Solado de ISOVER'. Generando respuestas para usted... El Panel Solado de ISOVER es un panel rígido de alta densidad de Lana de Roca ISOVER, no hidrófilo, sin revestimiento que tiene excelentes prestaciones térmicas y acústicas. Es la mejor opción para aislamiento acústico a ruido de impacto en suelos flotantes con losa de compresión armada de hormigón o cemento (>4cm). Espero que esto te ayude.

At the bottom, there are two more questions: ¿Qué es la Lana de Roca ISOVER? and ¿Cómo se utiliza el Panel Solado de ISOVER en la construcción?.

Cuál es el aislante térmico para edificios con menor impacto ambiental

✓ Buscando: 'aislante térmico para edificios con menor impacto ambiental'

✓ Generando respuestas para usted...

Los aislantes térmicos de origen mineral son preferibles a los de origen plástico porque tienen un menor impacto ambiental ¹. Además, los materiales de construcción de bajo impacto ambiental como el corcho son aliados perfectos de los aislantes térmicos para los cerramientos de los edificios ². Por otro lado, el poliestireno expandido (EPS) es uno de los aislantes más utilizados por su densidad y baja conductividad térmica ³. Espero que esto te ayude.

Más información: [1. bing.com](#) [2. es.weber](#) [3. solerpalau.com](#) [4. europapress.es](#) [+1 más](#) 1 de 20 ●

Lista los aislantes térmicos de bajo impacto ambiental en edificación

✓ Buscando: 'aislantes térmicos de bajo impacto ambiental en edificación'

✓ Generando respuestas para usted...

Algunos de los aislantes térmicos de bajo impacto ambiental en edificación son los materiales de construcción de bajo impacto ambiental como el corcho ¹, la lana de vidrio y lana de roca ², el Panel Solado de ISOVER ³, entre otros ⁴. Espero que esto te ayude.

Más información: [1. es.weber](#) [2. blogsaverroes.juntadeandalucia.es](#) [3. isover.es](#) [+2 más](#) 2 de 20 ●

¿Qué es el Panel Solado de ISOVER?

✓ Buscando: 'Panel Solado de ISOVER'

✓ Generando respuestas para usted...

El Panel Solado de ISOVER es un panel rígido de alta densidad de Lana de Roca ISOVER, no hidrófilo, sin revestimiento que tiene excelentes prestaciones térmicas y acústicas ¹. Es la mejor opción para aislamiento acústico a ruido de impacto en suelos flotantes con losa de compresión armada de hormigón o cemento (>4cm) ¹. Espero que esto te ayude.

Más información: [1. isover.es](#) [2. cir62.com](#) [3. isover.es](#) [4. isover.es](#) 3 de 20 ●

He also has to write an apology email

- He asks Bing to draft the email for him

BING

The screenshot shows the Bing AI chat interface with the following content:

- Search Bar:** "Cómo acceder al nuevo Microsoft" (How to access the new Microsoft)
- Navigation:** Microsoft Bing, BÚSQUEDA, CHAT
- Chat History:**
 - Query:** "Cuál es el aislante térmico para edificios con menor impacto ambiental" (What is the thermal insulation for buildings with the lowest environmental impact?)
 - Status:** Buscando: 'aislante térmico para edificios con menor impacto ambiental' (Searching: 'thermal insulation for buildings with the lowest environmental impact')
Generando respuestas para usted... (Generating responses for you...)
 - Response:** Los aislantes térmicos de origen mineral son preferibles a los de origen plástico porque tienen un menor impacto ambiental. Además, los materiales de construcción de bajo impacto ambiental como el corcho son aliados perfectos de los aislantes térmicos para los cerramientos de los edificios. Por otro lado, el poliestireno expandido (EPS) es uno de los aislantes más utilizados por su densidad y baja conductividad térmica. Espero que esto te ayude.
 - More Information:** 1. bing.com 2. es.weber 3. solerpalau.com 4. europapress.es +1 más 1 de 20
 - Query:** "Lista los aislantes térmicos de bajo impacto ambiental en edificación" (List the thermal insulators of low environmental impact in construction)
 - Status:** Buscando: 'aislantes térmicos de bajo impacto ambiental en edificación' (Searching: 'thermal insulators of low environmental impact in construction')
Generando respuestas para usted... (Generating responses for you...)
 - Response:** Algunos de los aislantes térmicos de bajo impacto ambiental en edificación son los materiales de construcción de bajo impacto ambiental como el corcho, la lana de vidrio y lana de roca, el Panel Solado de ISOVER, entre otros. Espero que esto te ayude.
 - More Information:** 1. es.weber 2. blogsaverroes.juntadeandalucia.es 3. isover.es +2 más 2 de 20
 - Query:** "¿Qué es el Panel Solado de ISOVER?" (What is the ISOVER Panel Solado?)
 - Status:** Buscando: 'Panel Solado de ISOVER' (Searching: 'ISOVER Panel Solado')
Generando respuestas para usted... (Generating responses for you...)
 - Response:** El Panel Solado de ISOVER es un panel rígido de alta densidad de Lana de Roca ISOVER, no hidrófilo, sin revestimiento que tiene excelentes prestaciones térmicas y acústicas. Es la mejor opción para aislamiento acústico a ruido de impacto en suelos flotantes con losa de compresión armada de hormigón o cemento (>4cm). Espero que esto te ayude.
 - More Information:** 1. isover.es 2. cir62.com 3. isover.es 4. isover.es 3 de 20
 - Query:** "¿Qué es la Lana de Roca ISOVER?" (What is the ISOVER Rock Wool?)
 - Query:** "¿Cómo se utiliza el Panel Solado de ISOVER en la construcción?" (How is the ISOVER Panel Solado used in construction?)
- Footer:** 11°C Mayorm. nublado (11°C Mayorm. cloudy), Búsqueda, and system icons.

hormigón o cemento (>4cm) ¹. Espero que esto te ayude.

Más información: [1. isover.es](#) [2. cir62.com](#) [3. isover.es](#) [4. isover.es](#)

3 de 20 ●

Redacta una correo para explicar que no he tenido tiempo de acabar el presupuesto de la obra del piso de la calle Balmes 92, porque el cliente no me ha mandado la información que le solicitamos y además Andrea me ha asignado tareas extra que me han quitado mucho tiempo

✓ Buscando: 'Cómo redactar un correo para explicar que no he tenido tiempo de acabar el presupuesto de la obra del piso de la calle Balmes 92'

✓ Buscando: 'Cómo redactar un correo para explicar que no he tenido tiempo de acabar un trabajo'

✓ Generando respuestas para usted...

Para redactar un correo para explicar que no has tenido tiempo de acabar el presupuesto de la obra del piso de la calle Balmes 92, puedes seguir los siguientes pasos:

1. Saluda al destinatario y explica que estás escribiendo para informarle que no has podido completar el presupuesto de la obra del piso de la calle Balmes 92.
2. Explica las razones por las que no has podido completar el presupuesto. En este caso, menciona que el cliente no te ha mandado la información que le solicitaste y que además Andrea te ha asignado tareas extra que te han quitado mucho tiempo.
3. Ofrece una solución o alternativa para resolver el problema. Por ejemplo, podrías decir que necesitas la información del cliente para poder completar el presupuesto y que si no la recibes en un plazo determinado, tendrás que retrasar la fecha de entrega del presupuesto.
4. Agradece al destinatario por su comprensión y por su tiempo.

Espero que esto te ayude.

Más información: [1. ionos.es](#) [2. blog.waalaxy.com](#) [3. mdirector.com](#) [+3 más](#)

4 de 20 ●

Redáctame el correo

Por favor, dime el nombre del destinatario y si hay algún detalle adicional que deba incluir en el correo.

5 de 20 ●

Redáctame el correo

Por favor, dime el nombre del destinatario y si hay algún detalle adicional que deba incluir en el correo.

5 de 20 ●

El destinatario es Carlos y debe saber que mañana tampoco lo podré entregar porque tengo el día libre

Entendido. Aquí te dejo un ejemplo de correo que puedes utilizar como base para redactar el tuyo:

Asunto: Presupuesto de la obra del piso de la calle Balmes 92

Estimado Carlos,

Le escribo para informarle que lamentablemente no he podido completar el presupuesto de la obra del piso de la calle Balmes 92 en el plazo acordado debido a que el cliente no me ha mandado la información que le solicité y además Andrea me ha asignado tareas extra que me han quitado mucho tiempo.

Le agradezco su comprensión en este asunto y le ofrezco una solución para resolver el problema. Necesito la información del cliente para poder completar el presupuesto y si no la recibo en un plazo determinado, tendré que retrasar la fecha de entrega del presupuesto.

Además, quisiera informarle que mañana tampoco podré entregar el presupuesto porque tengo el día libre. Sin embargo, estaré disponible a partir del lunes para cualquier consulta o duda que tenga.

Le agradezco por su tiempo y quedo a la espera de su respuesta.

Saludos cordiales, [Tu nombre]

6 de 20 ●



¿Cómo puedo mejorar mi gestión del tiempo?

¿Cómo puedo redactar un correo formal?

¿Qué información debería incluir en el correo?

Laura decides that her office needs to have an updated website

- Generate a website with the following sections, images, and data. It should be SEO optimized and include a section for clients to track active projects.

AI-Powered WordPress Platform

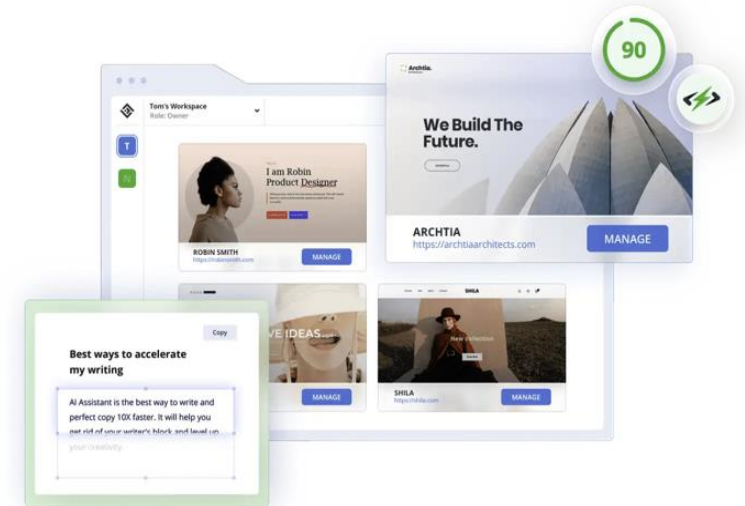
Automated Website Builder, Hosting, and PageSpeed Booster, to say the least.

Get Started for Free

✓ No credit card required

★★★★★ 50,000+ active users

★ Trustpilot | WordPress.org



10web

All the tools you need for your website



AI Website Builder

Build or recreate any



AI Assistant

Write and perfect SEO-



Hosting

Host your website on the



PageSpeed Booster

Optimize your website to

Additionally, it should include the conclusions from the latest conference on energy simulation

- Give me a summary of this video

YouTube Summary
with ChatGPT

[Inici](#) > [Extensions](#) > YouTube Summary with ChatGPT



YouTube Summary with ChatGPT

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★★★★★ 212 ⓘ | [Productivitat](#) | 300.000+ usuaris

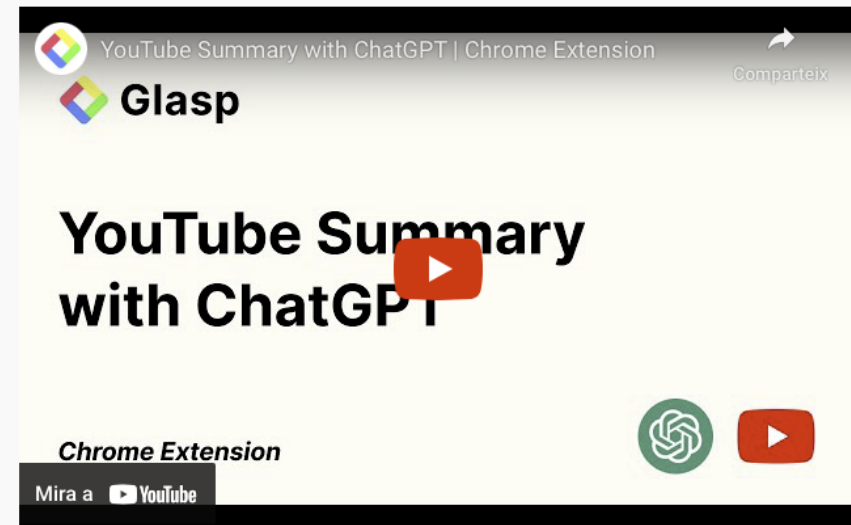
Visió general

Pràctiques de privadesa

Ressenyes

Assistència

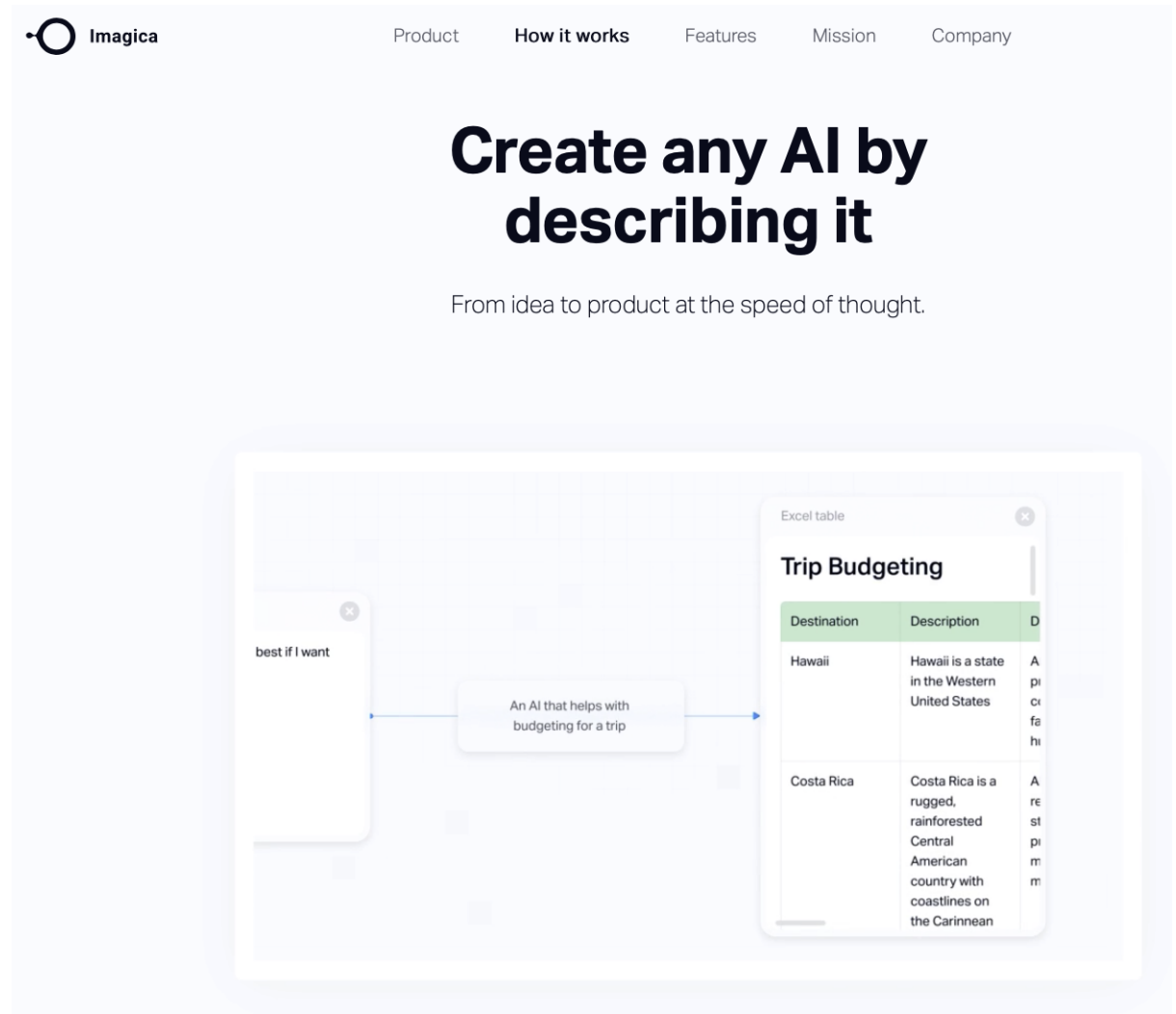
Relacionats



Andreu works for a company that manufactures construction materials

- Create an app to record incidents, where users can attach photos and provide ratings

IMAGICA



Susanna has to conduct an initial study for the construction of a residential building

- Download the documentation from the city hall and ask about the necessary details

HUMATA



HUMATA

Si estic a un metre de profunditat es considera planta baixa?

No, la profunditat edificable no està relacionada amb la planta baixa. La profunditat edificable es defineix com la franja de parcel·la compresa entre la línia de façana i la línia de profunditat edificable paral·lela a la primera. En qualsevol cas, l'ocupació permesa es limitarà a aquesta franja de parcel·la. Per tant, si estàs a un metre de profunditat, no es considera planta baixa, sinó que estàs dins de la franja de parcel·la que es pot ocupar.

Pages: [6](#), [7](#), [8](#), [9](#), [10](#)

Article 51 - PROFUNDITAT EDIFICABLE.-

1- La profunditat edificable ve delimitada per la línia de la façana i la línia de profunditat edificable paral·lela a la primera. L'edificació.

2- La profunditat edificable resultarà del traçat en posició equidistants respecte a la línia de façana pública, d'una figura semblant a la de l'illa.

3- En el sòl urbà, els plànols de detall fixen la línia de profunditat edificable i les zones d'ocupació establerts per a cada zona. Aquest criteri no afecta la ocupació dels edificis preexistents que no siguin resultat d'infracció urbanística, la qual cosa pot superar la que resulta de l'aplicació dels criteris de la zona. No obstant això, el volum o sostre dels edificis existents, o en la nova construcció, no podrà superar la profunditat edificable establerta.

4- En qualsevol cas, l'ocupació permesa es limitarà a la franja de parcel·la compresa entre la línia de façana i la línia de profunditat edificable paral·lela a la primera.

5- En els casos en els quals les alineacions edificables assenyalades als plànols no defineixen pati interior d'illa tancat, totes les façanes han de sotmetre's al tractament quant a materials d'acabats i disseny constructiu, ja que desapareixen els conceptes de façana interior i façana secundària. La paret mitgera ha de ser tractada de façana cega quant a la qualitat i, voluntàriament, es reculi per tal de permetre la introducció d'obertures.

6- Les parets mitgeres que no siguin permanents seran arrebossades i, si no ho són, hauran de ser permanents acabades amb material de façana. Si l'angle de la paret mitgera és inferior a seixanta-cinc graus sexagesimals és obligatòria la regulació per tal d'obtenir mitgeres perpendiculars a la façana. Aquesta determinació s'aplicarà a partir de l'1 de nucli antic.

7- Les porcions de parcel·la que excedeixin de la fondària edificable establerta en el plànol de detall interior d'illa. No serà edificable per damunt de la planta baixa en cap cas, ni més edificabilitat per una altra alineació de vialitat si no té façana a la via pública.

Now, she's working on possible floor plan layouts

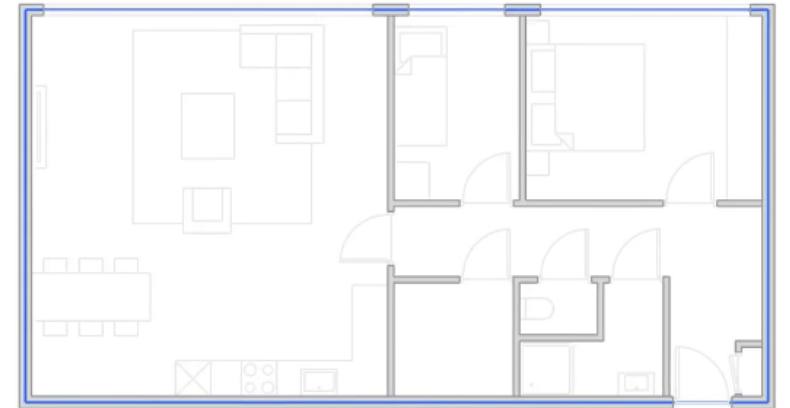
- She sets parameters and gets many different proposals

PLANFINDER

Draw Plans Faster

Draw apartment floorplans faster with the PlanFinder plugin.

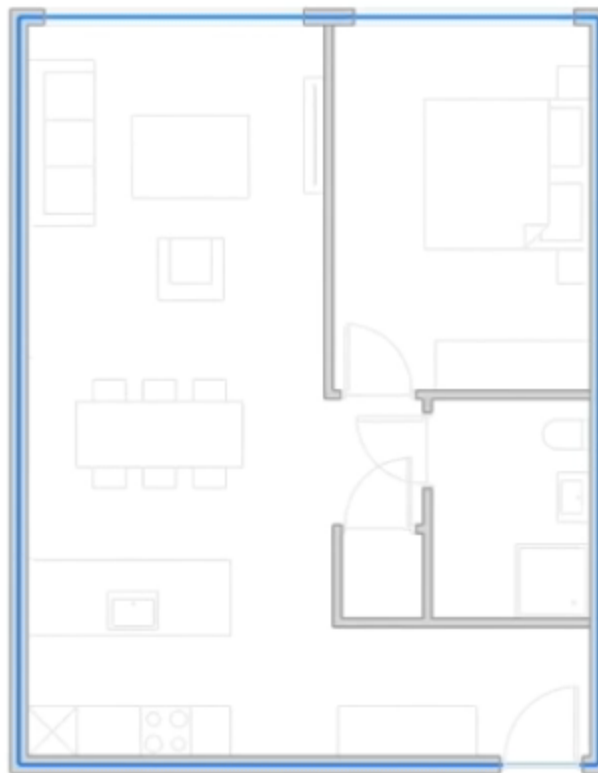
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Draw Plans Faster

Draw apartment floorplans faster with the PlanFinder plugin.

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Now, she's working on possible floor plan layouts

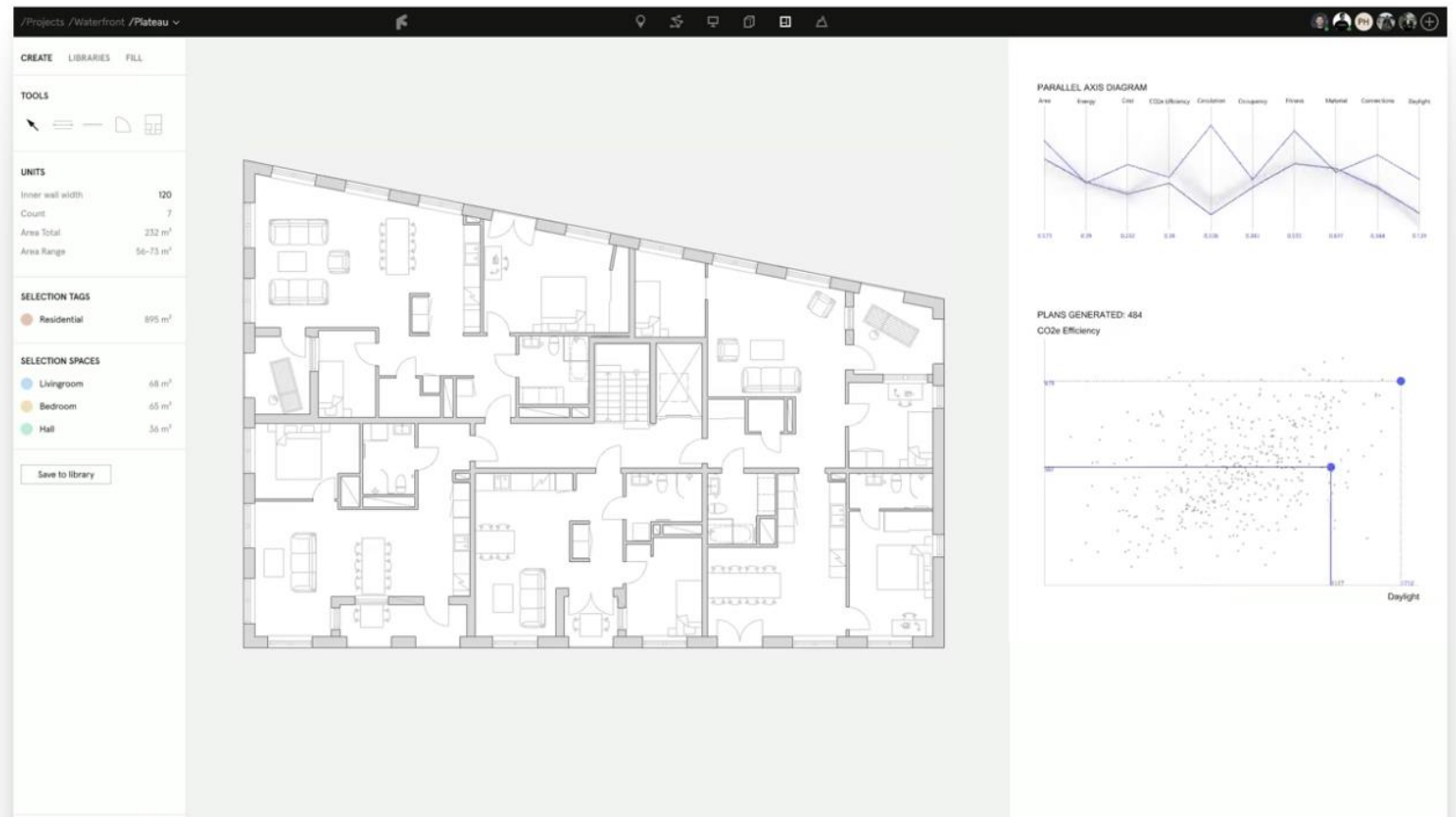
- She sets parameters and gets many different proposals

FINCH3D

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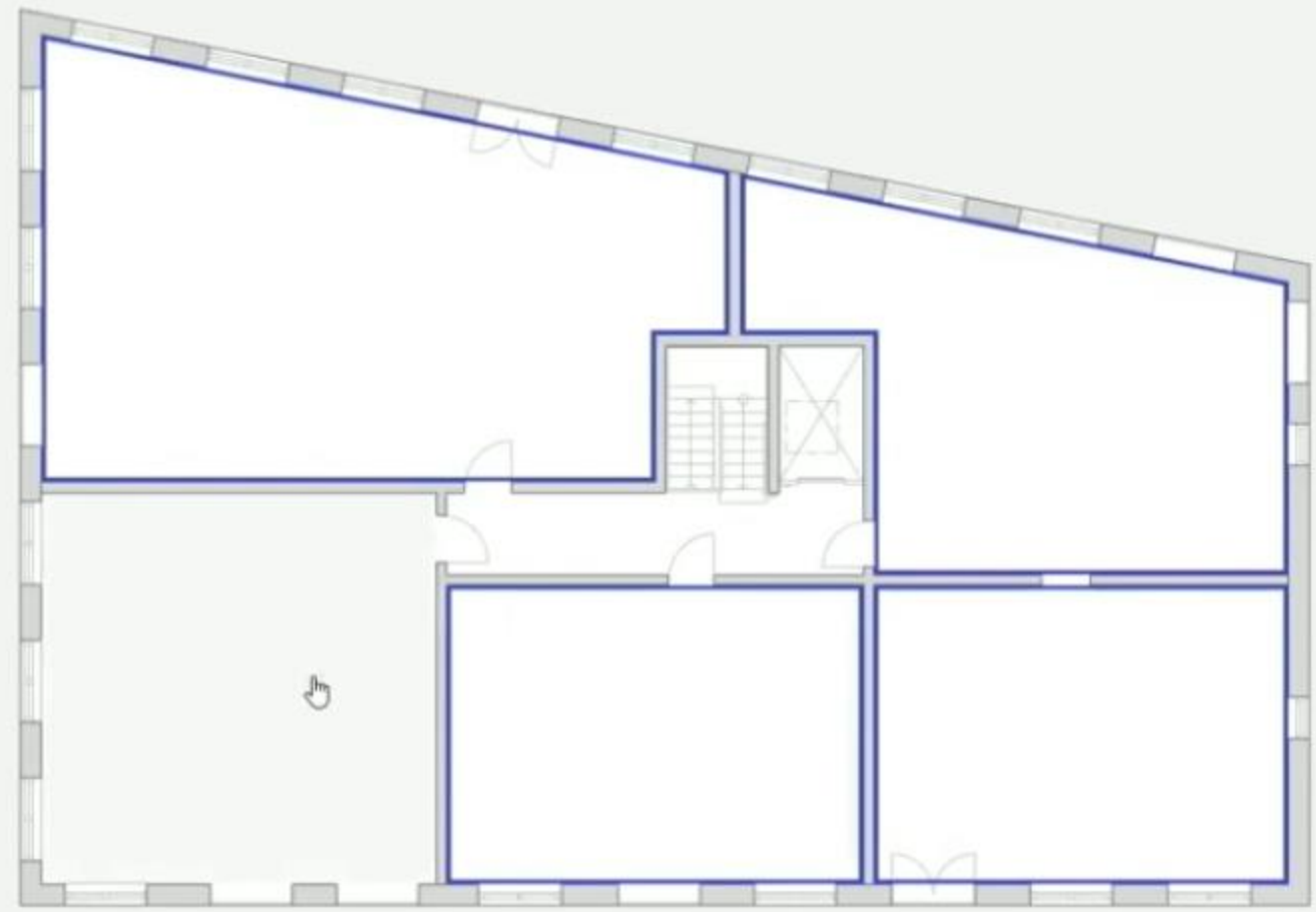


all width 120
 7
 all 232 m²
 ago 56-73 m²

ON TAGS
 identical 895 m²

ON SPACES
 ngroom 68 m²
 room 65 m²
 56 m²

to library



PARALLEL AXIS DIAGRAM

Area	Energy	Cost	CO2e Efficiency	Occupancy	Flexibility	Material	Connections	Daylight

PLANS GENERATED: 0
 Select Property

Run Optimization

Select Property

Marc works for a construction company that wants to offer a differentiated service

- Create a daily 3D visualization of the construction progress that can be viewed from a browser.

LUMA AI

NeRF from my new favourite scanning spot, The Hill Garden and Pergola in Hampstead Heath, London. Made with NVIDIA's Instant NGP and 360 video footage from the Insta360 One RS 1-Inch.

 r/nvidia • 8 mo. ago

NeRF from my new favourite scanning spot, The Hill Garden and Pergola in Hampstead Heath, London. Made with NVIDIA's Instant NGP and 360 video footage from the Insta360 One RS 1-Inch 360.

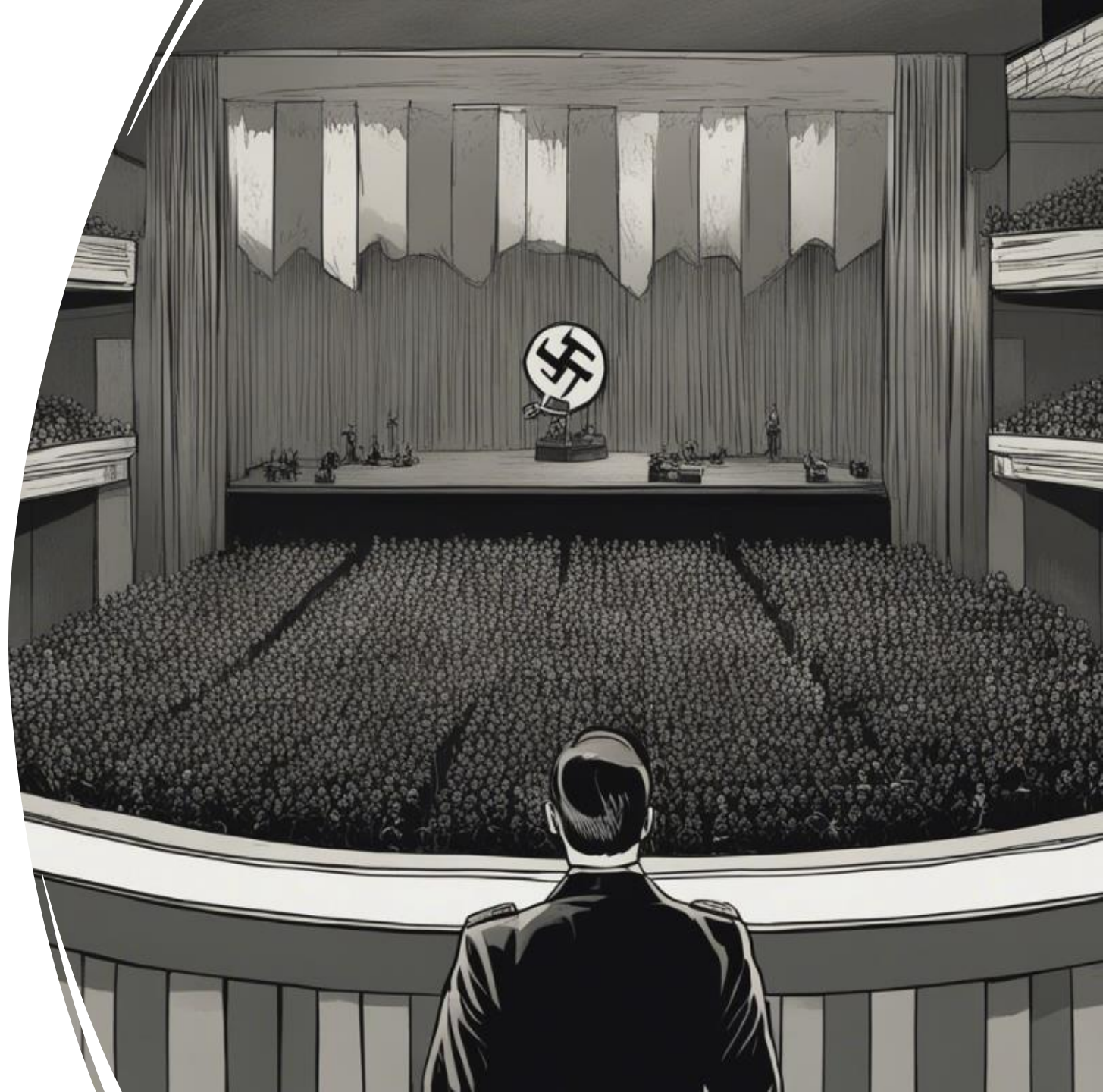


The future of work

- In a few years AI will be assumed. We are in an era where constant regeneration is necessary.
- Mental models of yesterday are starting to collide with the technologies of tomorrow.
- The new era of work depends on a new way of seeing ourselves as workers. It's the era of the creative generalist. You will be able to provide value to your organization in many different ways, you will be able to perform proficiently in so many different areas thanks to AI.
- The adjacent possible: possible things you can do because of your skillset and interests. Everybody has different interests, hobbies, expertise and exposure. Make connections between things you are an expert and things you are just aware, or good at. You only need to orchestrate the tools, guide the AI to help you make that happen. A small team can have a massive capability of doing interesting things.

Why should we take things slow?

- The transition can be tough if it's too fast.
 - Hitler rose to power after 3 years of 25% unemployment.
- We need to embrace the regulations that will come. The threats must not outweigh the opportunities.



Threats

- Modern democracy is based on information technologies. In the past, there were only small, isolated cases of democracy, like city-states such as ancient Athens. But there couldn't be democracies with millions of people because there was no way for them to communicate. In the Middle Ages, it was impossible for millions of people to have a conversation.
- With AI, we may not be able to trust information, so conversations might collapse. Therefore, it's not clear if democracy can survive. When money was invented, counterfeit money became possible. What saved the monetary system was the implementation of strict regulations against counterfeit money. The same needs to happen with AI.
- With AI, we can create "fake people." Probably, a bot shouldn't have freedom of expression and should always be limited.

Solutions

- Models must undergo stress tests, for example, triggering racist reactions to see how they respond. Different ways of living, building traditions... Bias toward construction solutions that benefit certain companies. We may not even be aware of it.
- Security will become an asset: a more secure model will have stronger selling points.

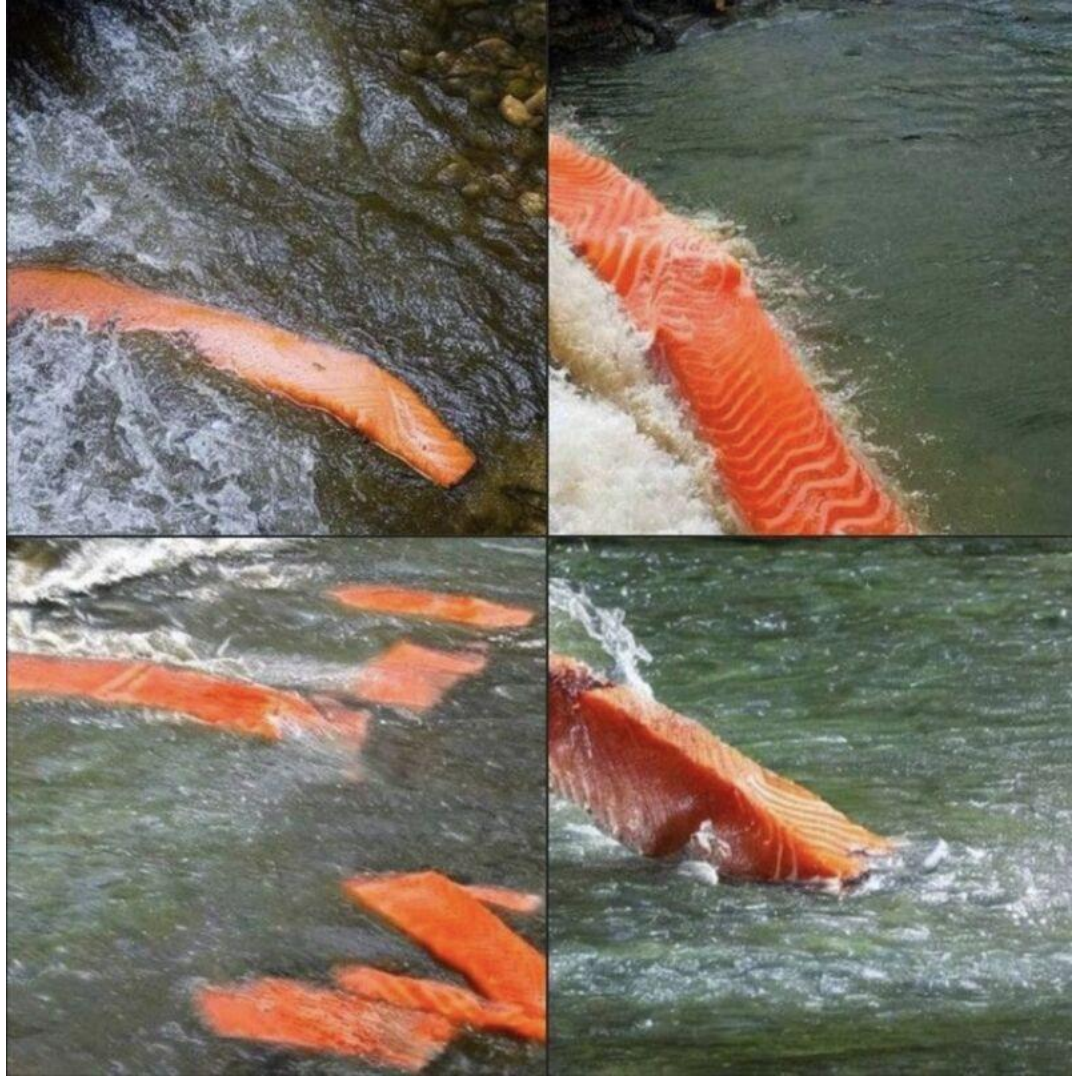






Bias

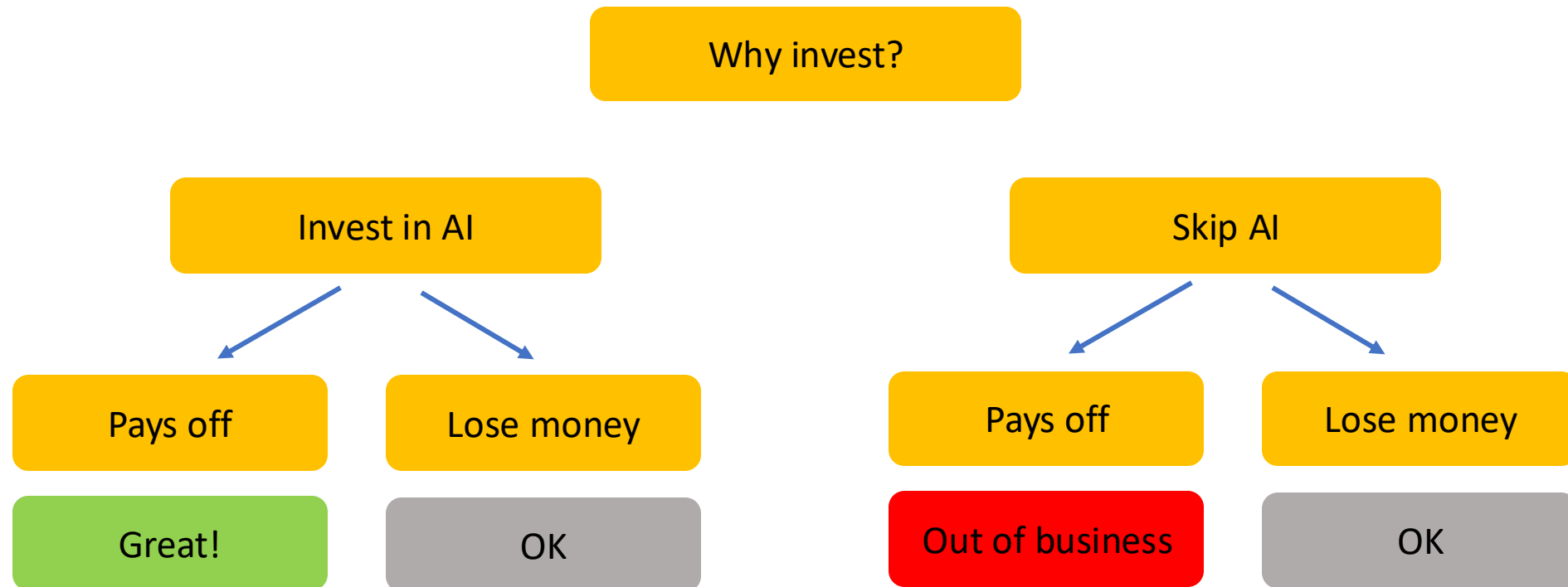




Salmon swimming upstream

Hype

Companies have to lie about AI and create hype, because they need money to invest in it.
The majority of these AI projects have some glaring flaws that may not have solutions.



AI evolution

AI evolution

Conventional programming

For example, a function where you input some values, and it returns output values. A person has defined it.



Neural networks

They classify things.
Is this a cat?
And it responds, yes.



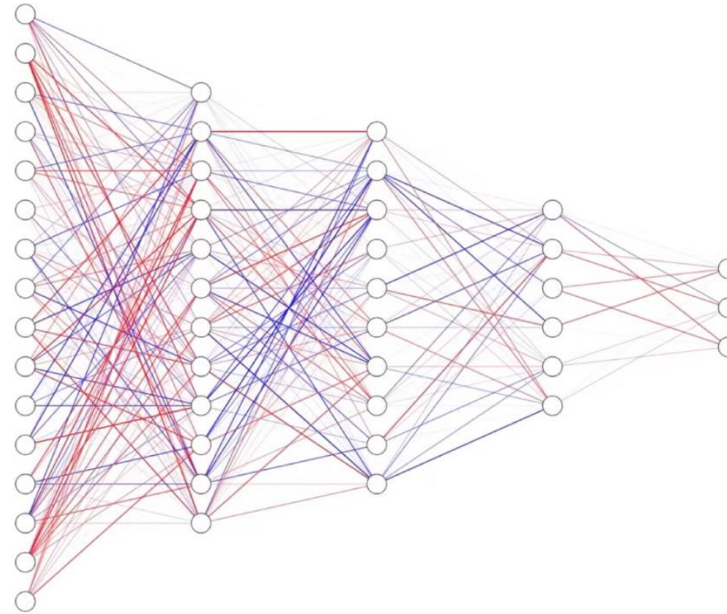
Large language models

It reads a lot. It has learned about cats and millions of other concepts.
What is a cat? And it generates an answer.

Can AI solve math problems?

Input	Output
3	4
4	5
9	10
12	13
1	2
2	3
8	9

$y = x + 1$



AI is great at approximating any function & pattern, but doesn't understand the formula $y=x+1$ even after millions of examples like: input 3 output 4.

Deep learning

- What has truly revolutionized AI is Machine Learning, specifically Deep Learning:

The effective use of artificial neural networks for machine learning

Types of Learning

Supervised learning

Neural networks used for a single task.

Solves classification problems.

We need labeled data.

Unsupervised learning

Neural networks used for multiple tasks.

Example: one neural network analyzes the sentiment of a text, another summarizes it, another translates it... Now, this is all done at once with Large Language Models.

Reinforcement learning

Models are trained without data.

Starting from initial parameters and imposed limitations, the machine runs tests until it finds the best way to do something.

Advantages of Supervised Learning

- **Precision:** it tends to be very precise for tasks with labeled data available.
- **Ease of use:** there are many robust and easy-to-use algorithms available.

Limitations of Supervised Learning

- **Data dependency:** it requires a significant amount of labeled data, which can be difficult and expensive to obtain.
- **Risk of overfitting:** there is a risk that the model adapts too much to the training data and cannot recognize new data or new categories and scenarios.

Unsupervised Learning

- It's simpler because it removes the bottleneck of requiring a human to label all the input data.
- This opens up the possibility of training it for many more things.
- However, it requires much more data and a lot more processing power.
- It allows the AI to build its own connections, recognizing more patterns that are sometimes not obvious.
- When combined with other types of learning, you can begin to create really large tools like ChatGPT, Gemini, Stable Diffusion, etc.

What is Generative AI?

- Generative AI refers to artificial intelligence systems that can generate new content, such as text, images, audio, and video.
- They can create original things that are practically indistinguishable from content created by humans.
- Some of the most well-known examples are GPT-4 and Midjourney.

How does it work ?

- These systems are trained on massive datasets that understand patterns and the relationship between words, pixels, or notes. For example, a text generation model like GPT-4 is trained on millions of web pages and books to understand the structure and grammar of human languages.
- These models use deep learning algorithms and neural networks to analyze these training datasets and develop an understanding of how to generate realistic results. It relies more on predicting patterns than on following specific rules. These are called Large Language Models.
- When you give the model a prompt, it predicts the most likely sequence of words. This allows it to generate text or images that are surprisingly human-like, based on the initial prompt.
- The prompt is the text input that the AI uses to gain context and guide the desired response.

Benefits

- Allows creativity to scale, optimizes content, and reaches clients in different ways.
- Improves efficiency by reducing production costs.
- Enhances consistency, making it easier to maintain tone across all generated content.
- Improves quality as content can be tailored to clients through data analysis.
- Faster ideation.
- Scalability.

Future

The future of organizations will be agent driven.

One of the most important skills of the next generation of work is not how do you do a specific type of work. It's how do you orchestrate the resources at your disposal to do the work for you.

BUT

We do not know when the more advanced tools that will enhance human capabilities will be available. We do not know what problems we may encounter along the way that could potentially stall the development of technology for many years.