



# Who lambers and lambers and lambers are second and lambers are secon

Al, Data-Driven Innovation and Tourism

Data Skills Lead for Scotland

**BBC Horizon** 

Bosnia & Herzegovina

Civil Servant - London Olympics





# Europe's Leading Traveltech Hub

Over 200 Traveltech businesses...

Scotland is one of Europe's leading traveltech hubs, alongside Amsterdam, Berlin and Barcelona.





### Why Edinburgh?

It's where
Skyscanner calls
home



Growing tech sector
/ academic hub for
data and Al



Unrivalled tourism destination



# World leader in 21st century tourism?



# The last 3 months...

Worked with 120 over destinations

Europe, the US and Canada with my friends at:

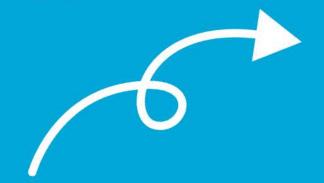




## The last 3 months...

Worked with...

Open Al, Anthropic et al





**ANTHROP\C** 





"We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run"

**AMARA'S LAW** 







2024: Total Investment in Al Companies





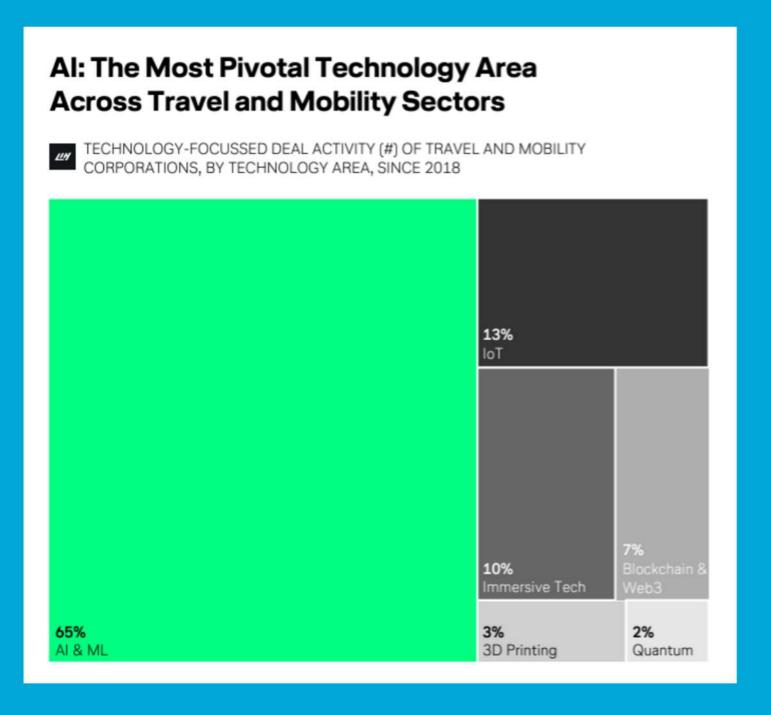


Al companies in value





# Traveltech Investing Patterns



Source: Luthansa







#### **QUESTION 1:**

What Al tools have you tried?

How often do you use them?

## NOT A CRYSTAL BALL

Future as a <u>verb</u>, not a noun





#### What can be generated?

The 'outputs'

Text:







**Insights and Code:** 





**Images and Video:** 

Midjourney

Pika

SORA SORA

Music:

**♪** Suno

udio





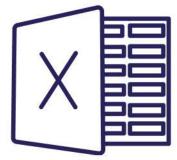
#### What can be interpreted?

'The 'inputs'

**Text** 



Data, Code and Software



Images, Audio and Video



Web Content (RAG)



### MULTI-MODAL AI

**TEXT** 



DATA AND SOFTWARE



IMAGES, AUDIO AND VIDEO



**WEB CONTENT** 

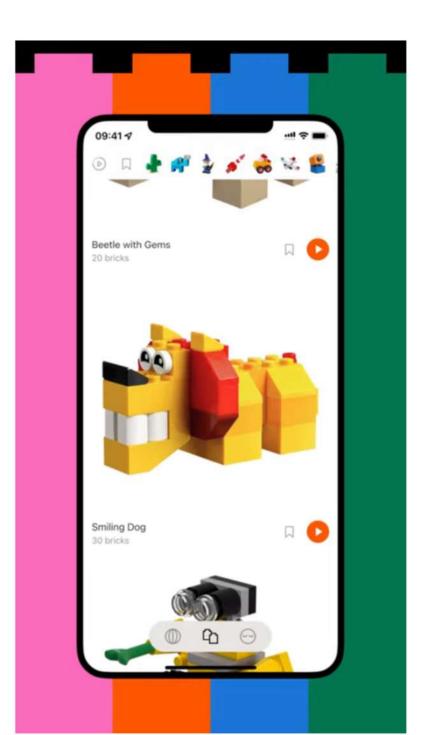


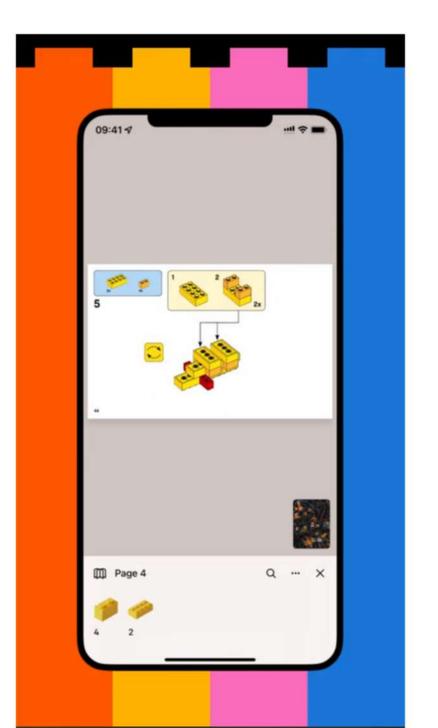




#### Lego Companion







https://brickit.app







#### **QUESTION 2:**

Have you used Al in any part of your recent travels?

How did you use it?





#### Using GenAl in Tourism



Marketing Images & Video



Customer Service



Review and Complaint Handling



Itineraries 'Things to do'





#### Using GenAl in Tourism



Marketing Images & Video



**Customer Service** 



Internal processes and innovation



Itineraries 'Things to do'





### Customer Service / Engagement

Handling customer enquiries





#### Automated Enquiry Handling

In just two days work (April 2023)...



Receive 100's of bespoke, nonstandard emails



Used Al to 'read', 'understand' and identify the next action



Initiates the next action and email response for +80% of inquiries



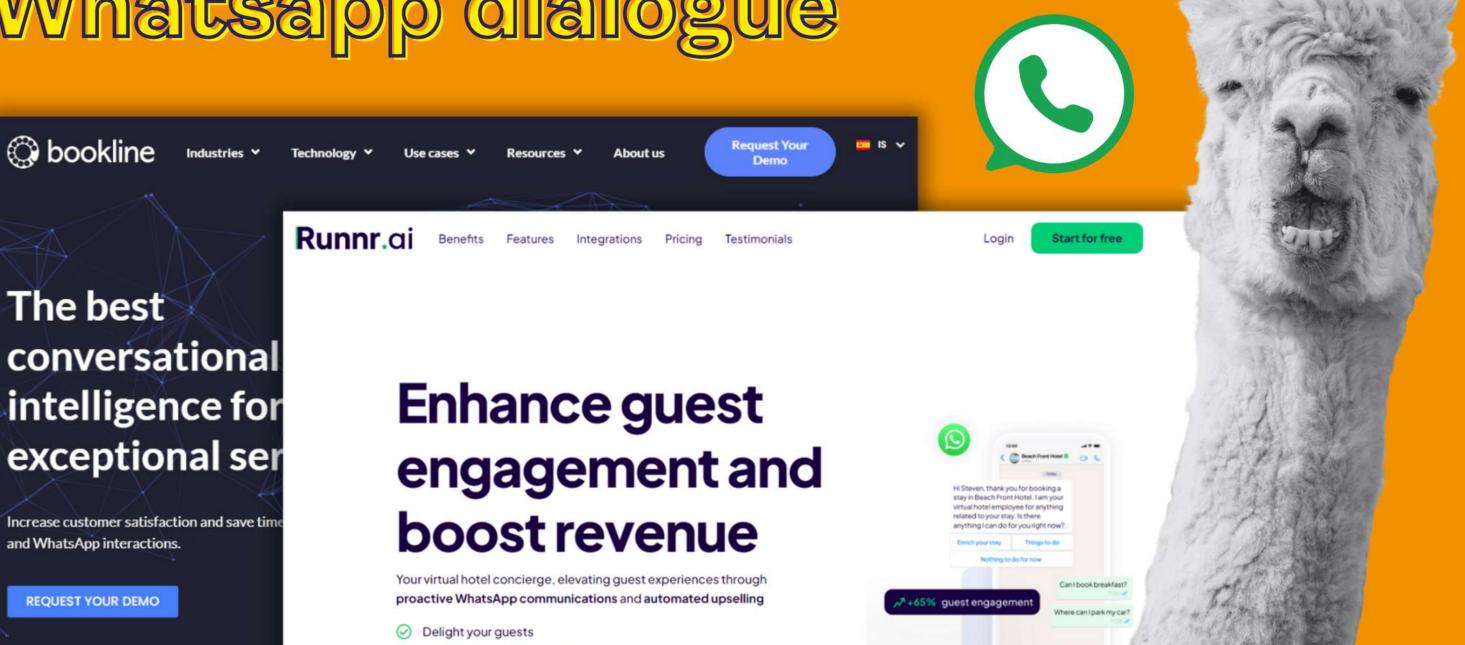
Over 1 million email responses sent





#### Whatsapp dialogue

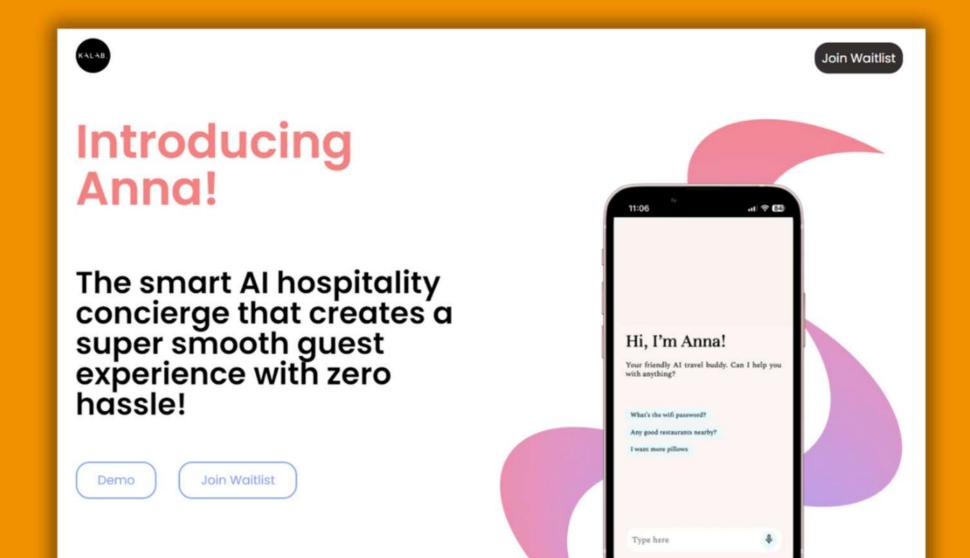
Peduce operational workload







#### Replacing the guest book

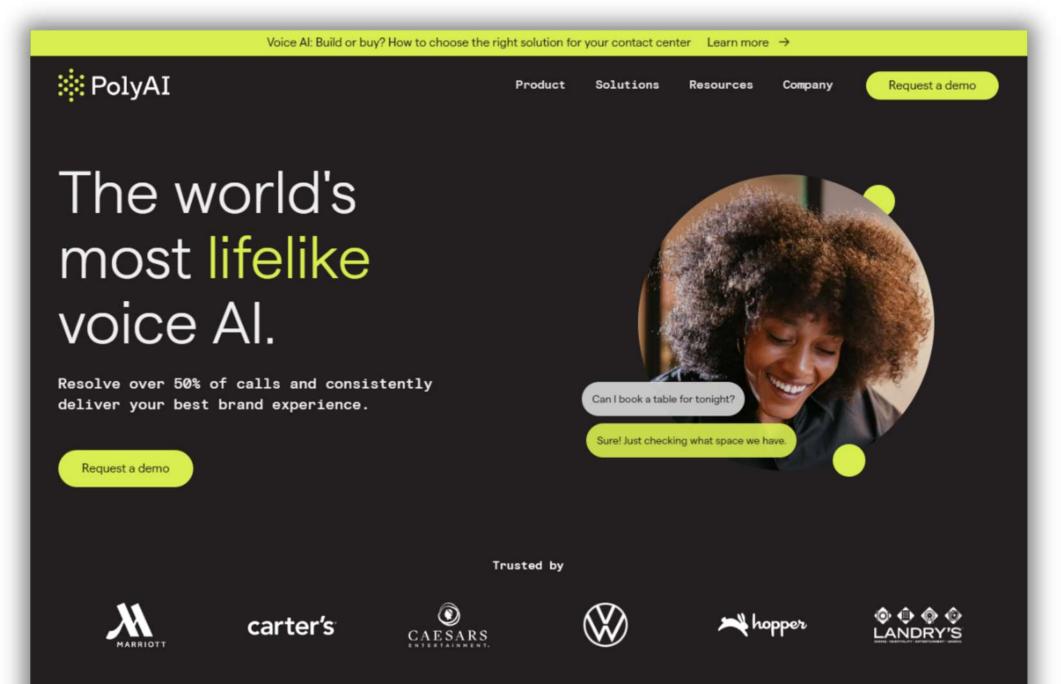






#### Contact Centre as a Service

Text to voice, in conversational, natural language

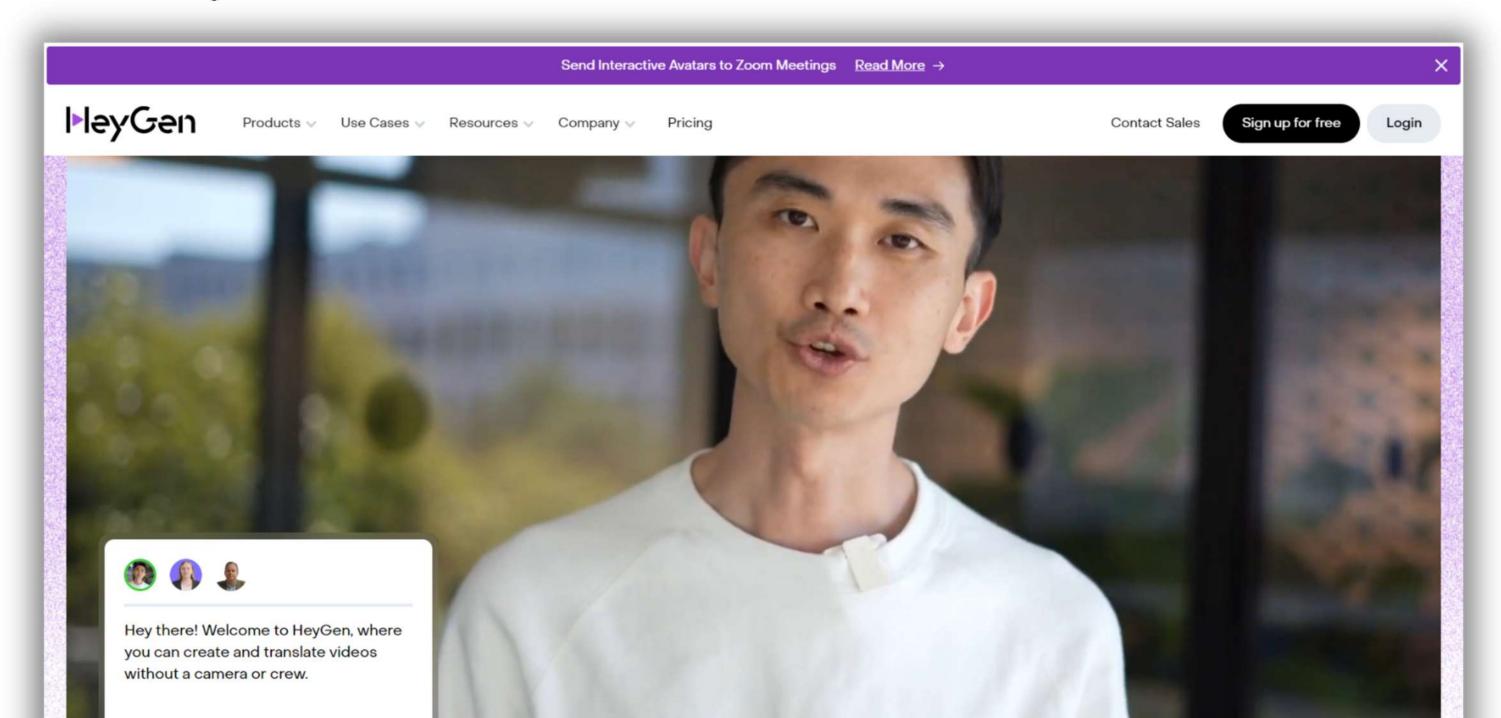






#### HeyGen

Commercially available avatars







#### 3D Models and Content

Much faster to create interactive VR and AR experiences...

3D Al Studio Bezi

#### **Recent Creations**

See what our Users have been generating. Get inspired and start creating your 3D Models today!



ABSTRACT

Prompt: An sculpture in the form of convolutions

11.03.2024



STONE

Prompt: A golem made of stone

29.03.2023



ANIMAL

Prompt: A 3D Model of a T-Rex

25.03.2024



Lunaris Scott Martins Barreto















#### Avatars and Holograms..?

Al capable of....















Accurate complex dialogue (with character)

Multi-lingual, realtime translation Creating detailed 3D models

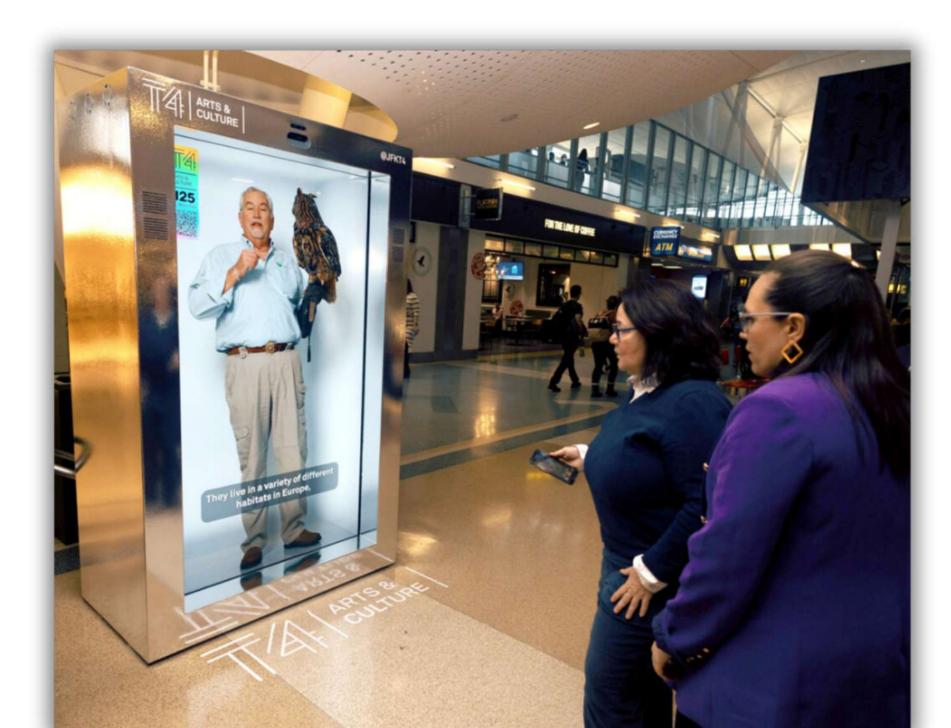
Avatar / holographic Assistants?

(Your digital twin?)





#### Robots and holograms..?



Proto Hologram JFK Terminal 4



#### Dial Dali

Ask Dali anything you want...







#### Slide from one year ago



Your Assets,
Collections or Points
of Interest



"I'm interested in Lighthouses"



Using your data, create bespoke, niche itineraries



Dialogue with artefacts?

### The Living Museum

A lugger, with a view of the Eddistone lig...







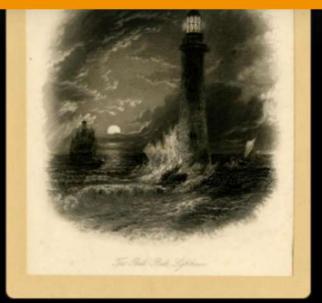
















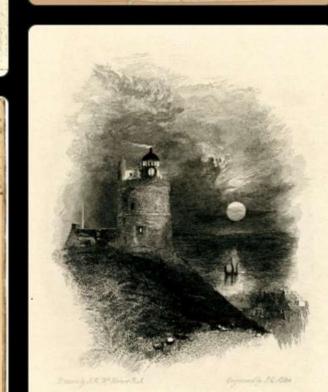
























#### QUESTION 3:

What Al use case have impressed you the most?





## Promotion, marketing & discoverability

Encouraging and influencing responsible tourism





#### The Brown Play-Doh' Problem

66

# When all of the colours get mixed together...

You get a generic brown sludge and everything looks the same

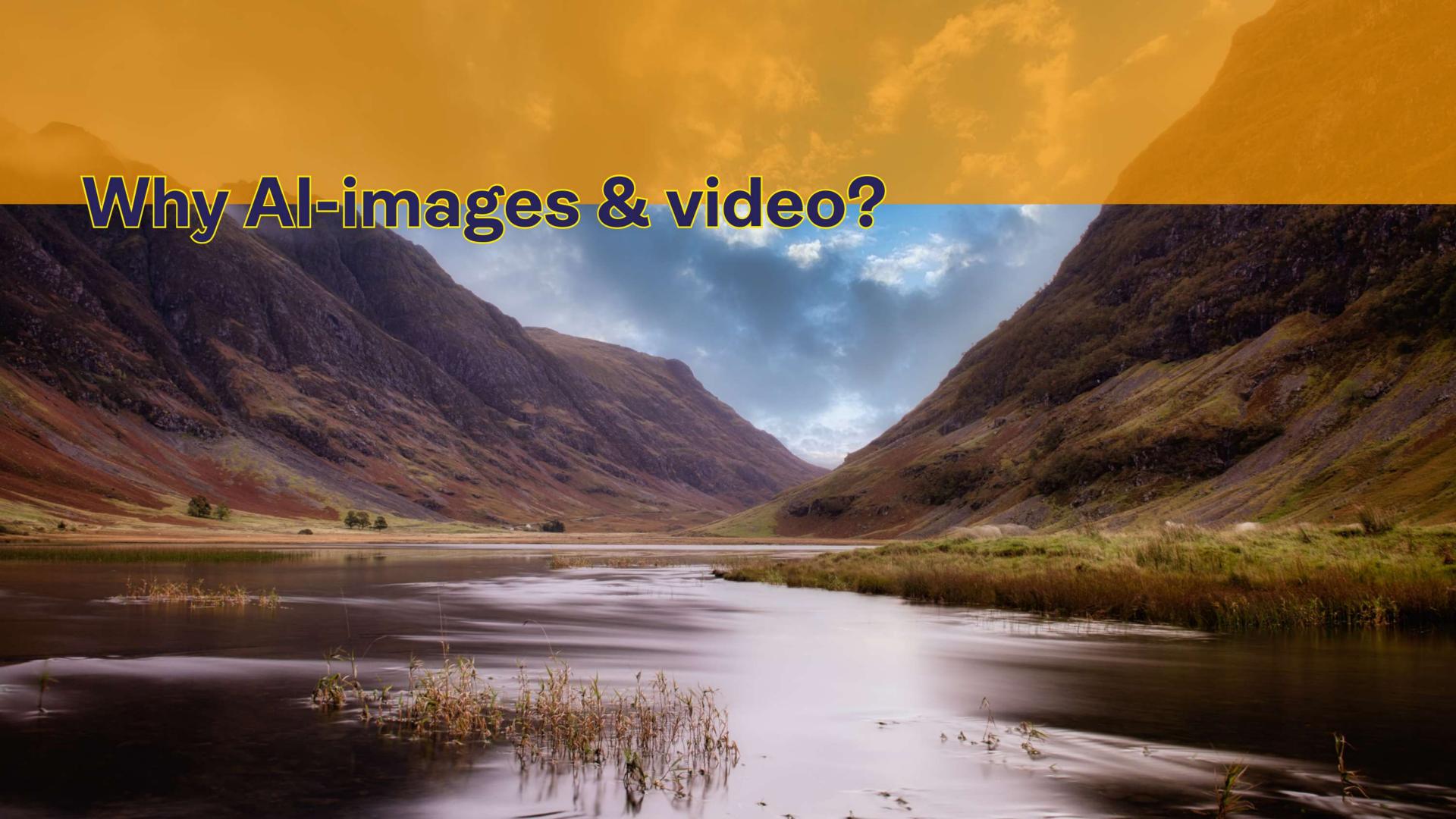




#### The Brown Play-Doh' Problem

66

"fosters..."











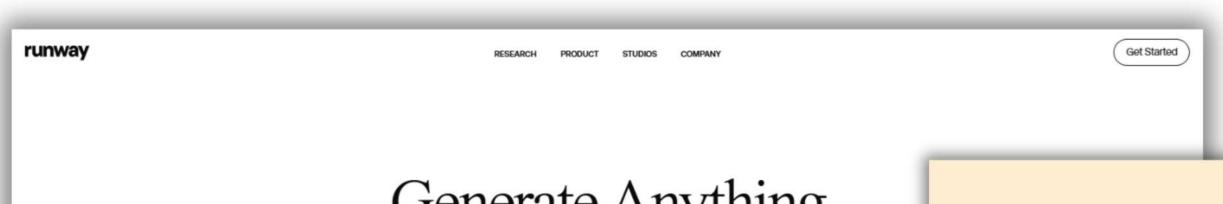
Storyboarding

**Editing & Adapting** 

Low-cost / Good Enough



#### Video and Animation



Generate Anything

From complex physics-based simulations to hyper-realistic renders, our tools allow you to generate production-ready assets with speed, control and fidelity.

Product Shot Animation Expressive Characters Repurpose Footage Green Screen Landscape Flythroughs Fire, Smoke and Fl

#### **Product Shot Animation**







Pika

Beautifully bizarre! Take it next level when you create a Pika account.

Image + Cinematic handheld shot.

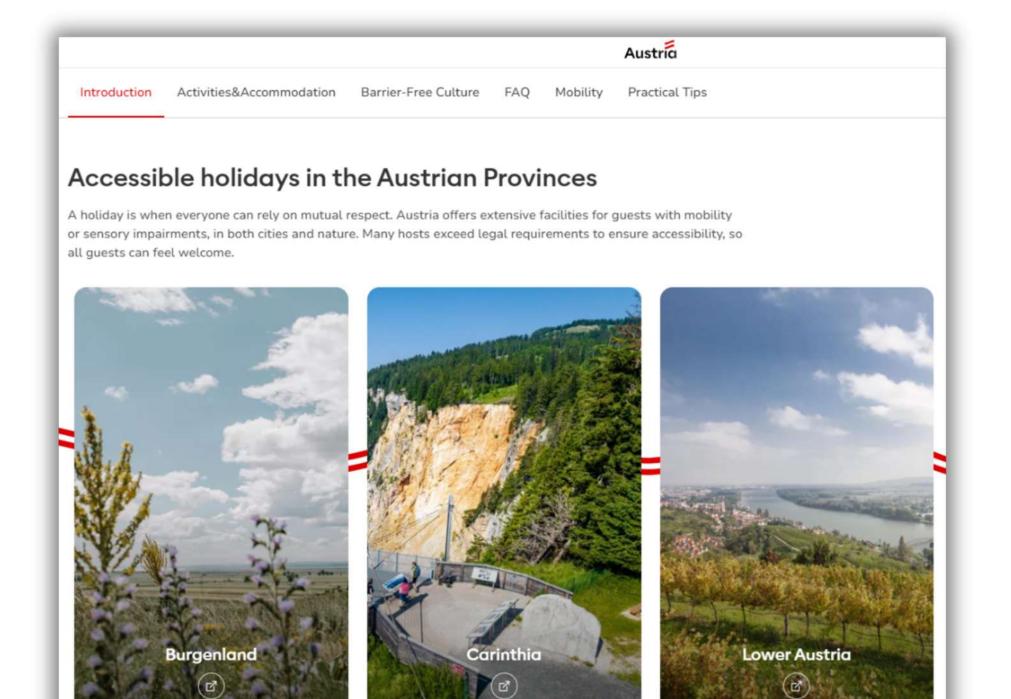
Image + A hand is gently shaking a tropical soda can, th...

Image + A silver can lays on a



#### Mundane tasks...

Image descriptions and labeling...

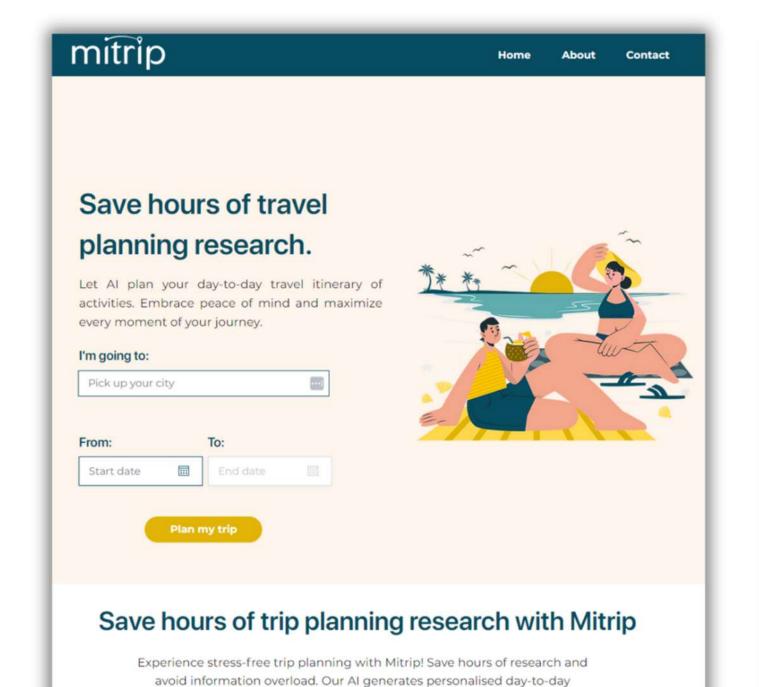


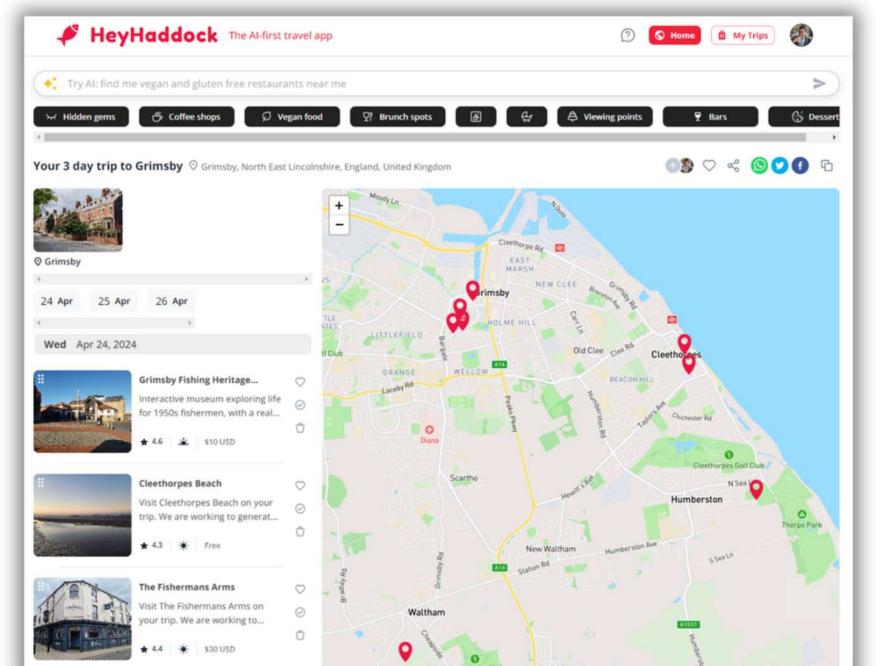




#### Al Itineraries and planning

1000s of startups...



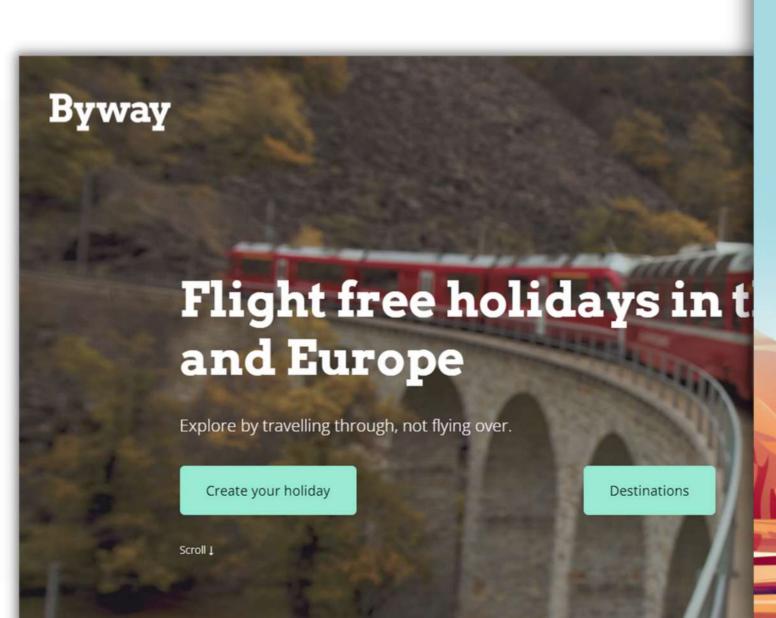


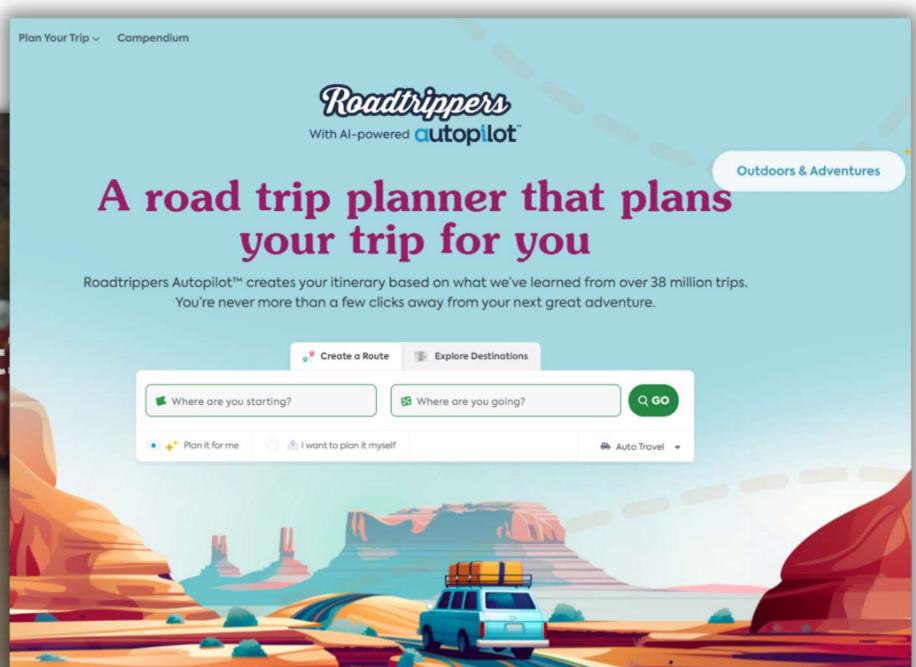




#### The Niche path

Plan my roadtrip, my green trip...

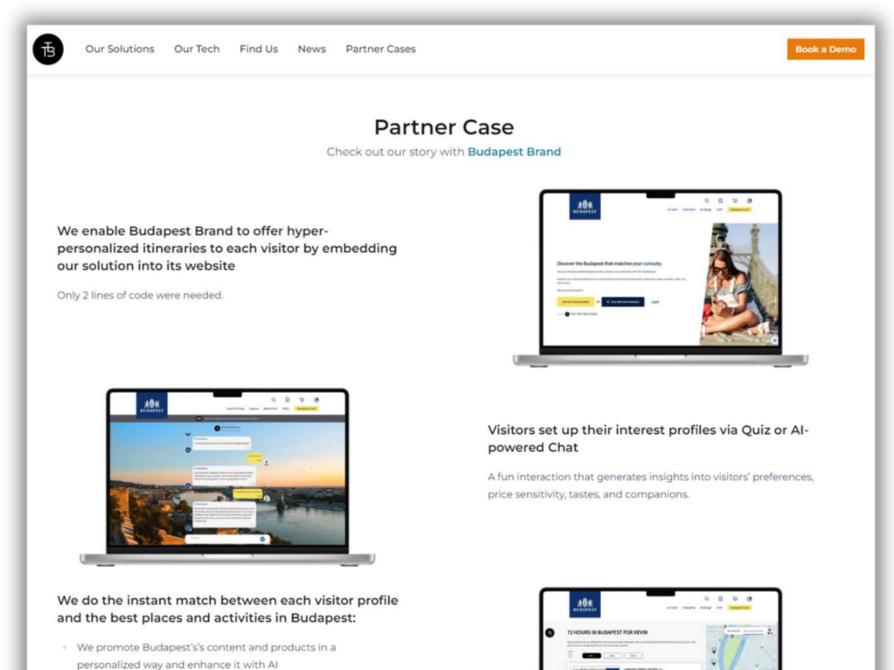






#### For Destinations

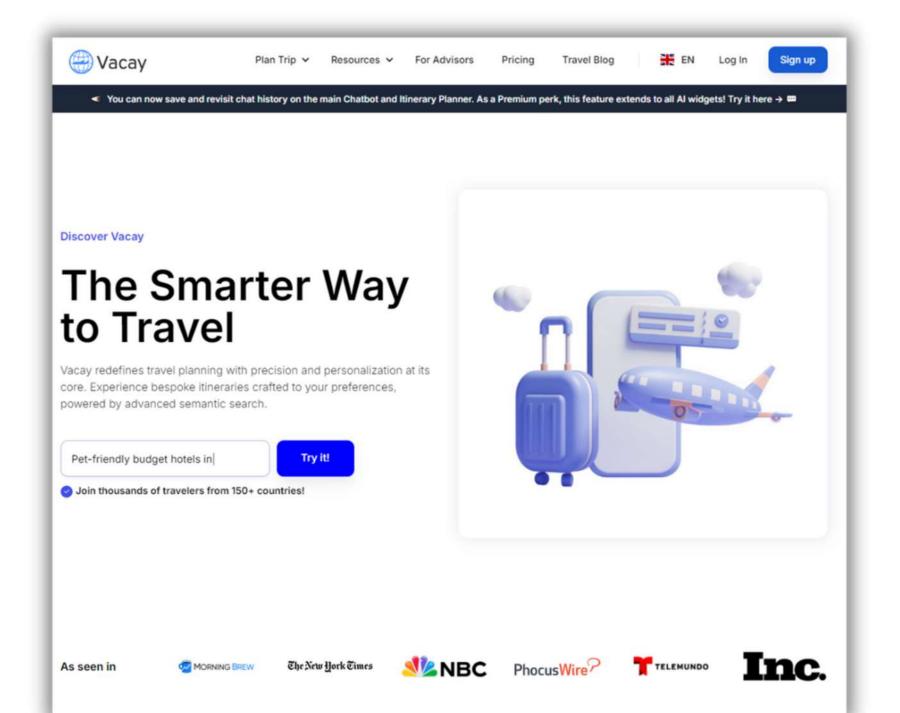
#### **Business to Business**



Trip Boutique

#### For Travel Agents

Productivity tooling for established agents...



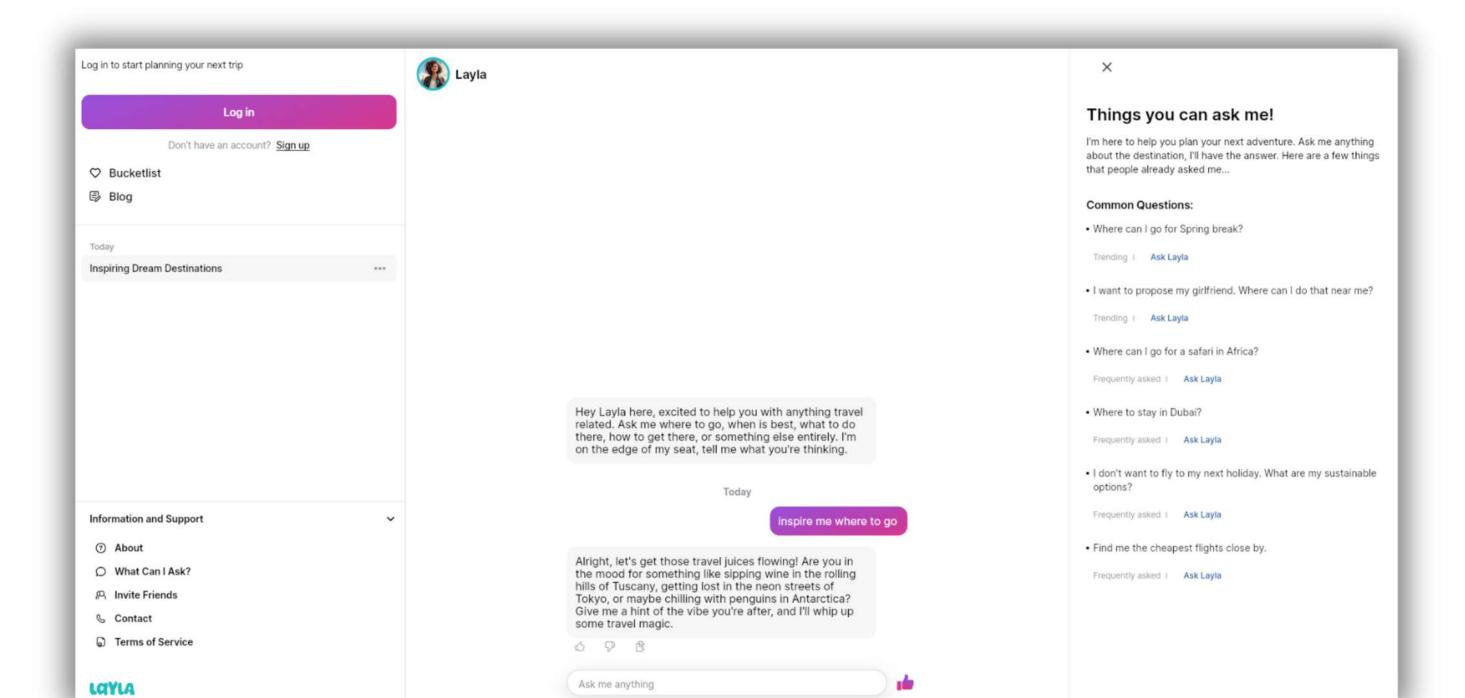
Vacay





#### Travel Assistants

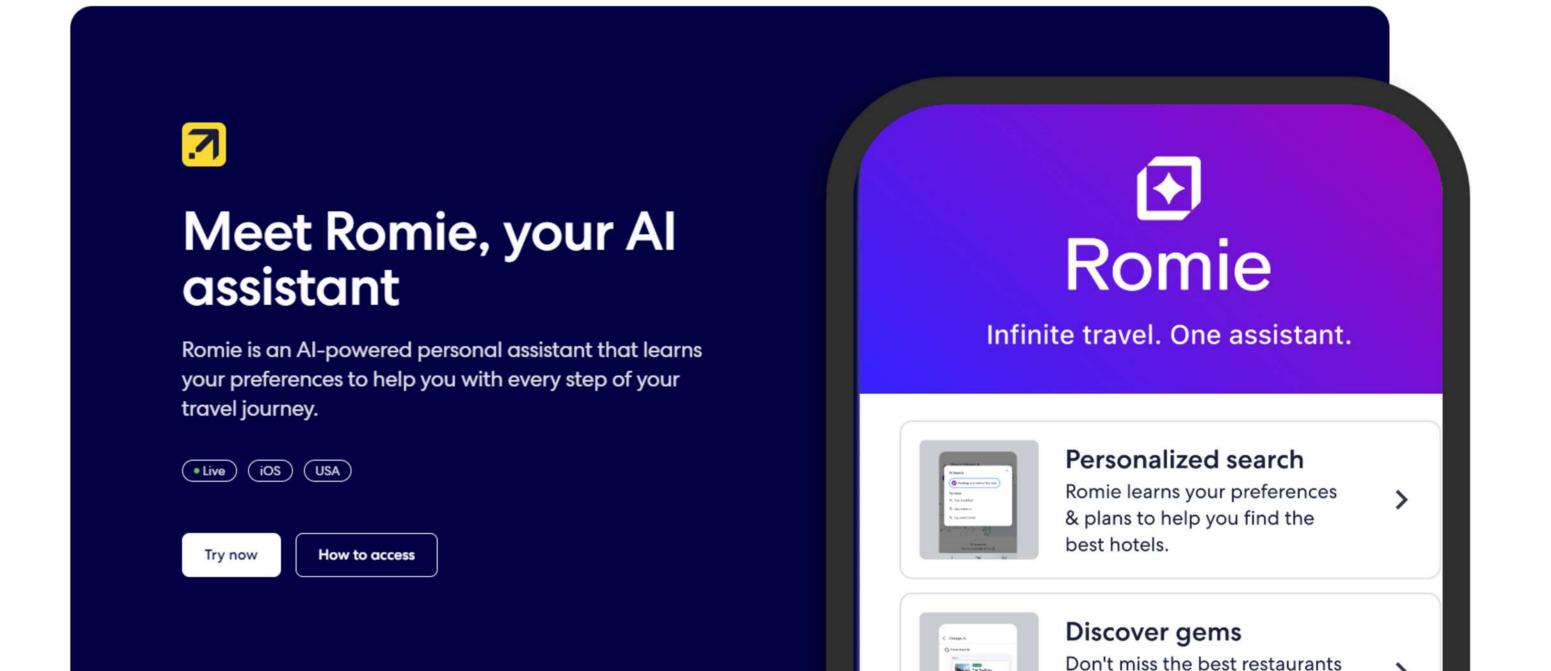
Backed by the biggest names in Traveltech





#### The OTAS

Expedia, Booking et al

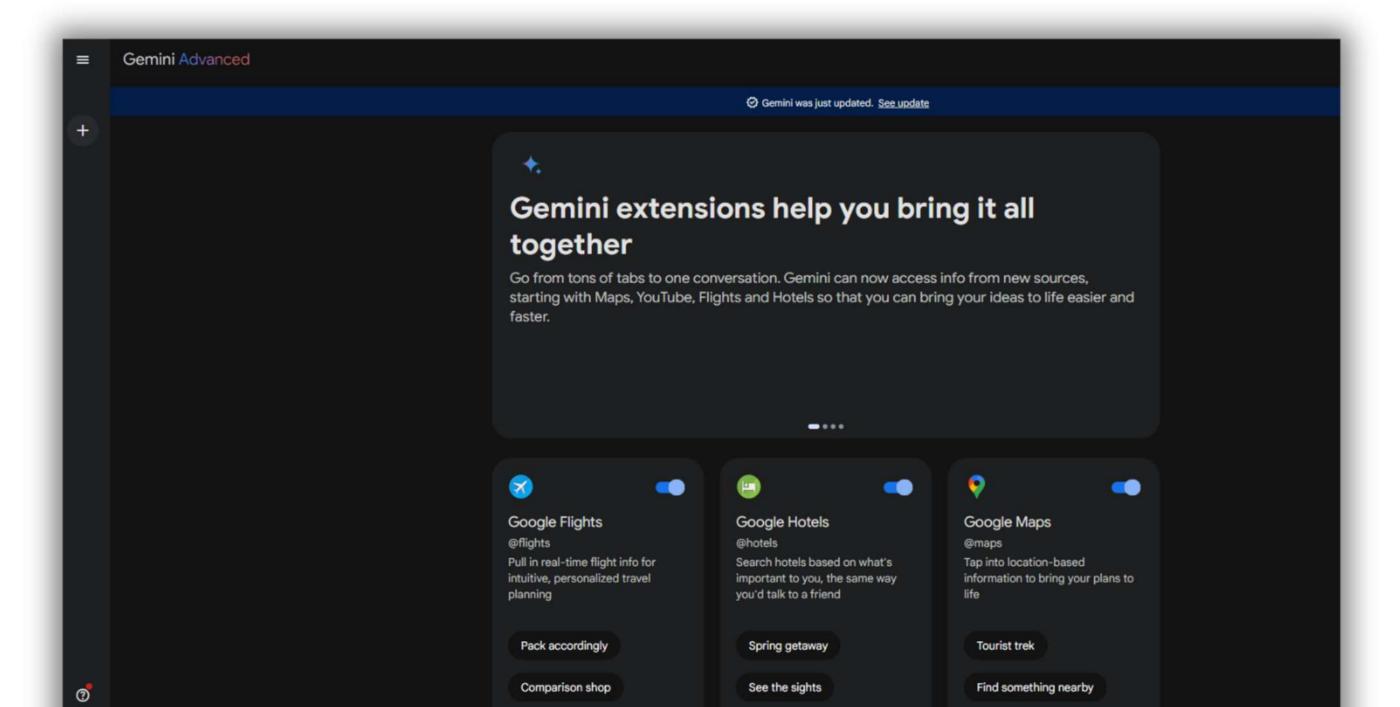






#### Google Gemini

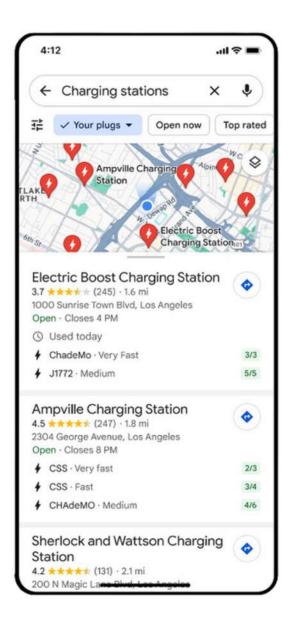
The world's most powerful travel app(s)?



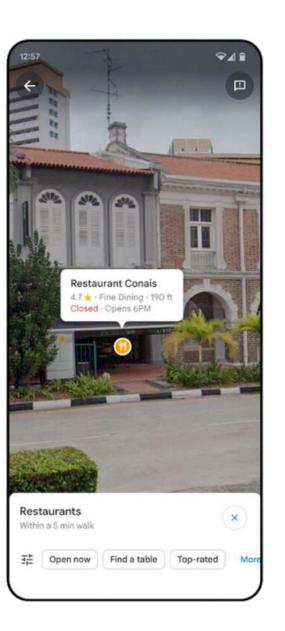


## Google Maps

The world's most powerful travel app(s)?













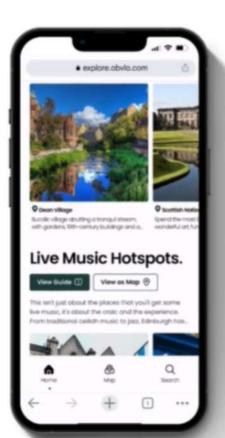
Curation is having a comeback....



Increase your engagement with zero manual effort.

 $^{2}$ 

\*Powered by Obvlo AI



#### Curated Local Guides. Content that is curated using Al into local guides, delivering the most relevant recommendations to drive engagement.





"guides for <u>families</u> with young kids
"guides for couples on a <u>romantic</u> break
"guides for <u>culture</u> lovers or <u>foodies</u>

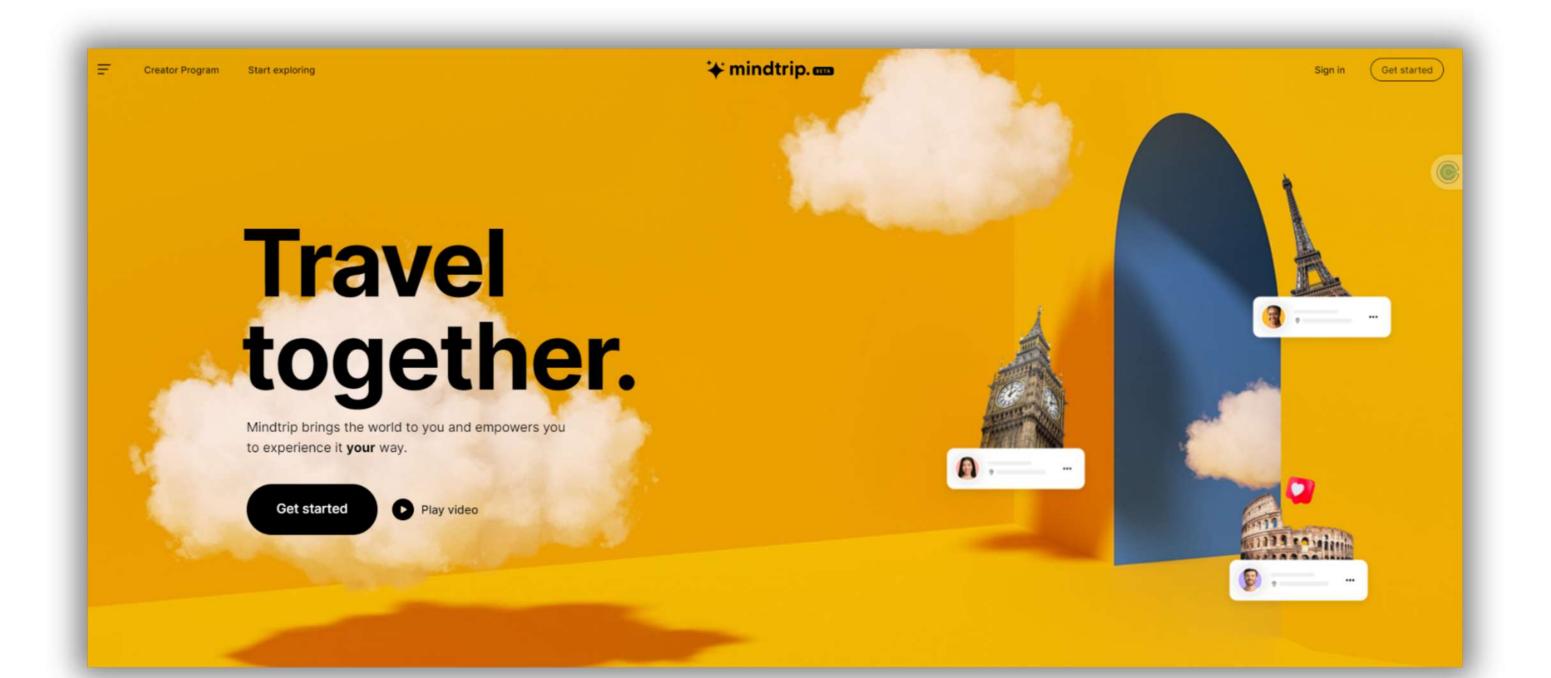






#### Beyond personalisation

Negotiating and planning with more than one person

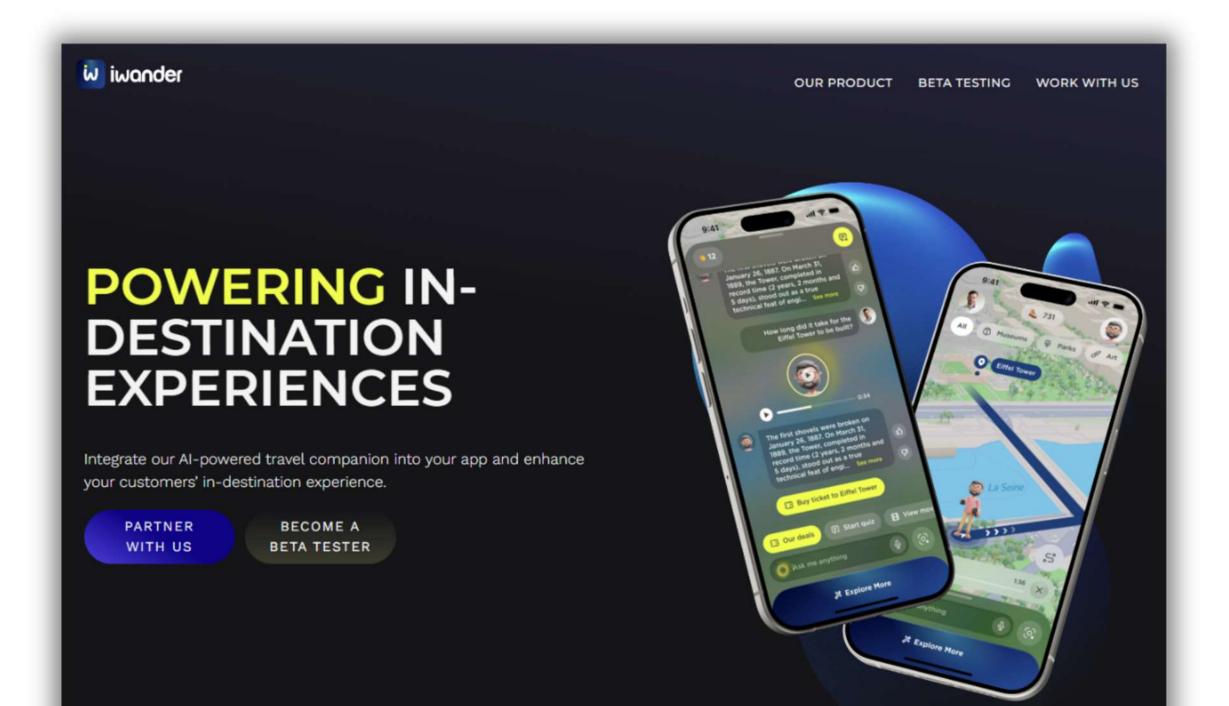






#### Your personal guide

Utilising characters

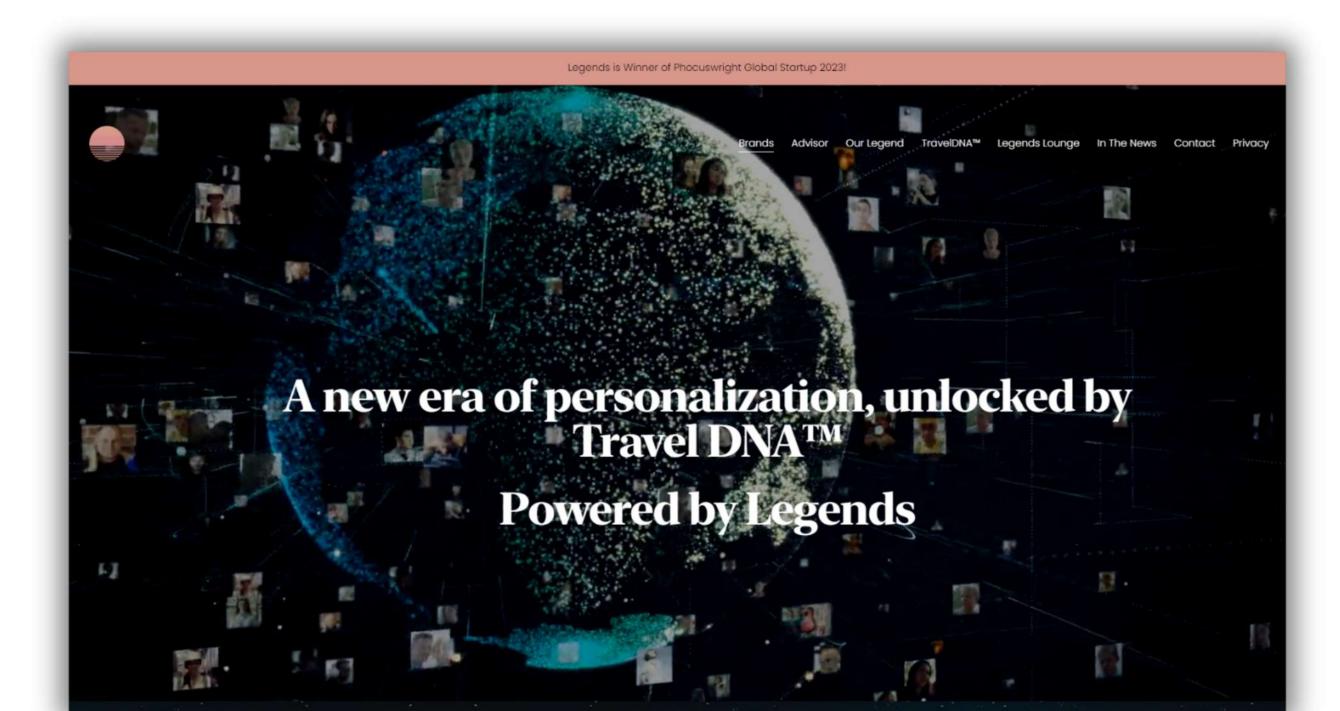






#### User Consent for User Content

Acquiring user-generated data for personalisation - Legends







Weather Prediction

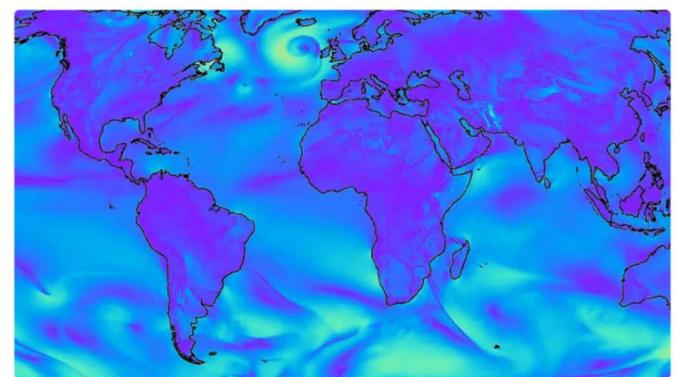
Google DeepMind

RESEARCH

GraphCast: Al model for faster and more accurate global weather forecasting

14 NOVEMBER 2023 mi Lam on behalf of the GraphCast team

< Share









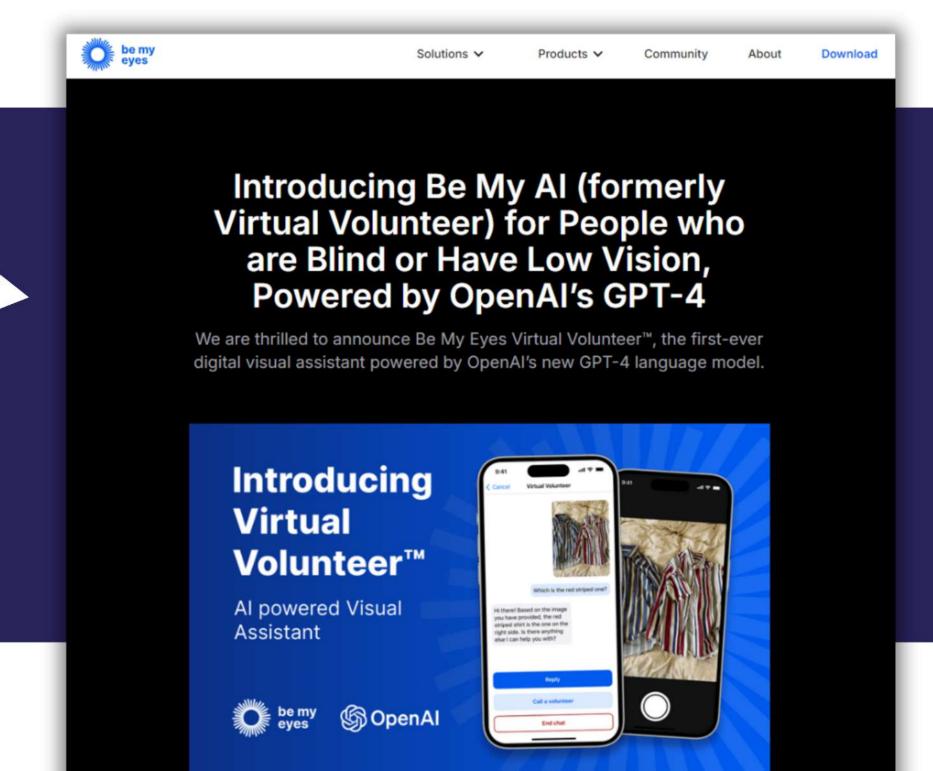
#### Be My Eyes

Making the inaccessible, accessible

Build in detailed info for accessibility

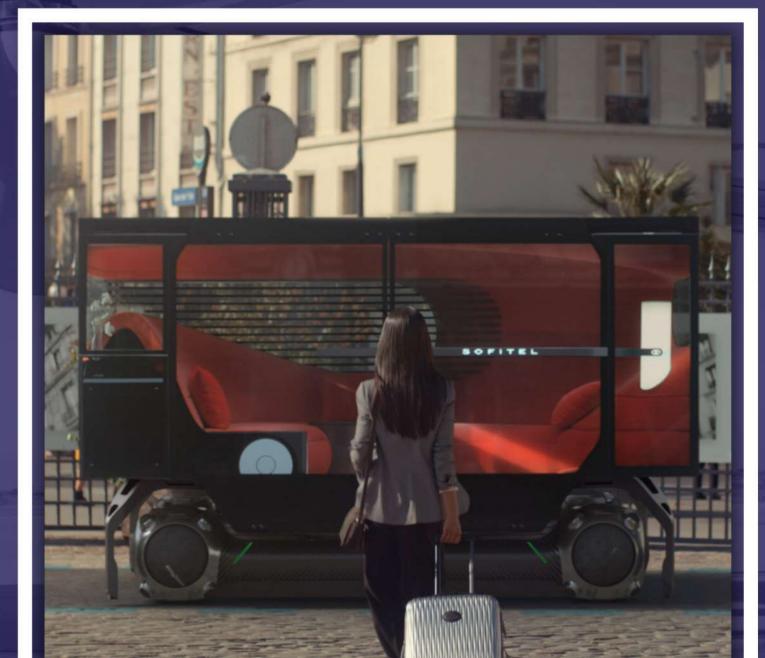
Faster descriptions and labeling

Multi-modal Al for multi-sensory communication



## Carriage, sans horse

Autonomous vehicle fleets for hotels?













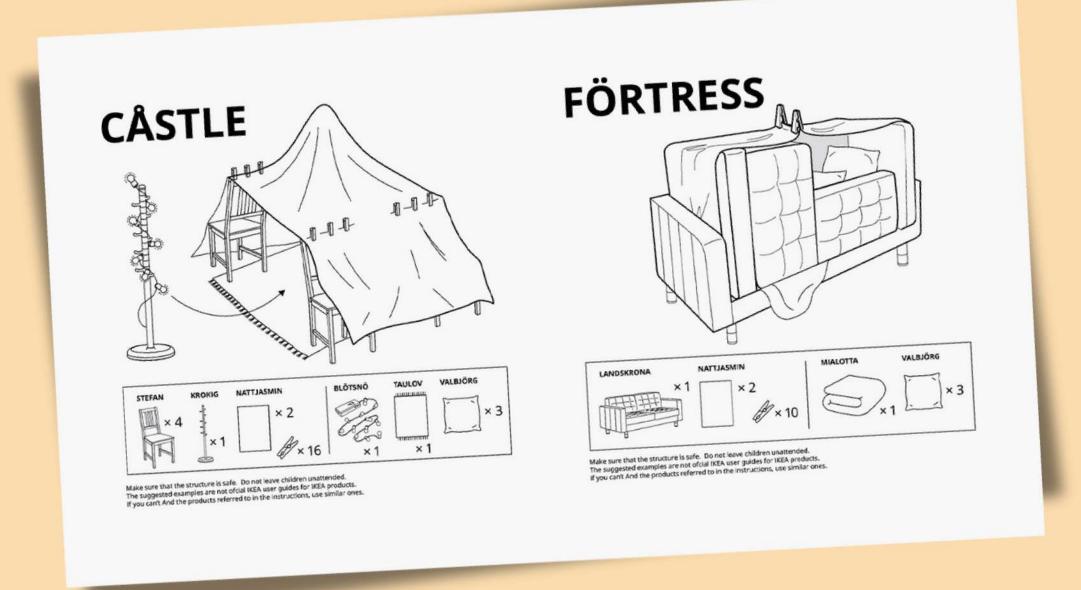




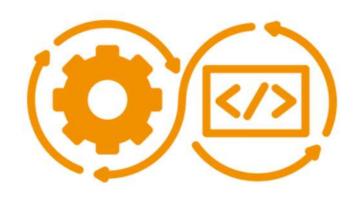


#### IKEA Effect

People place higher value on things they helped to build or create.



#### DIAL IT UP OR DOWN







AUTOMATION

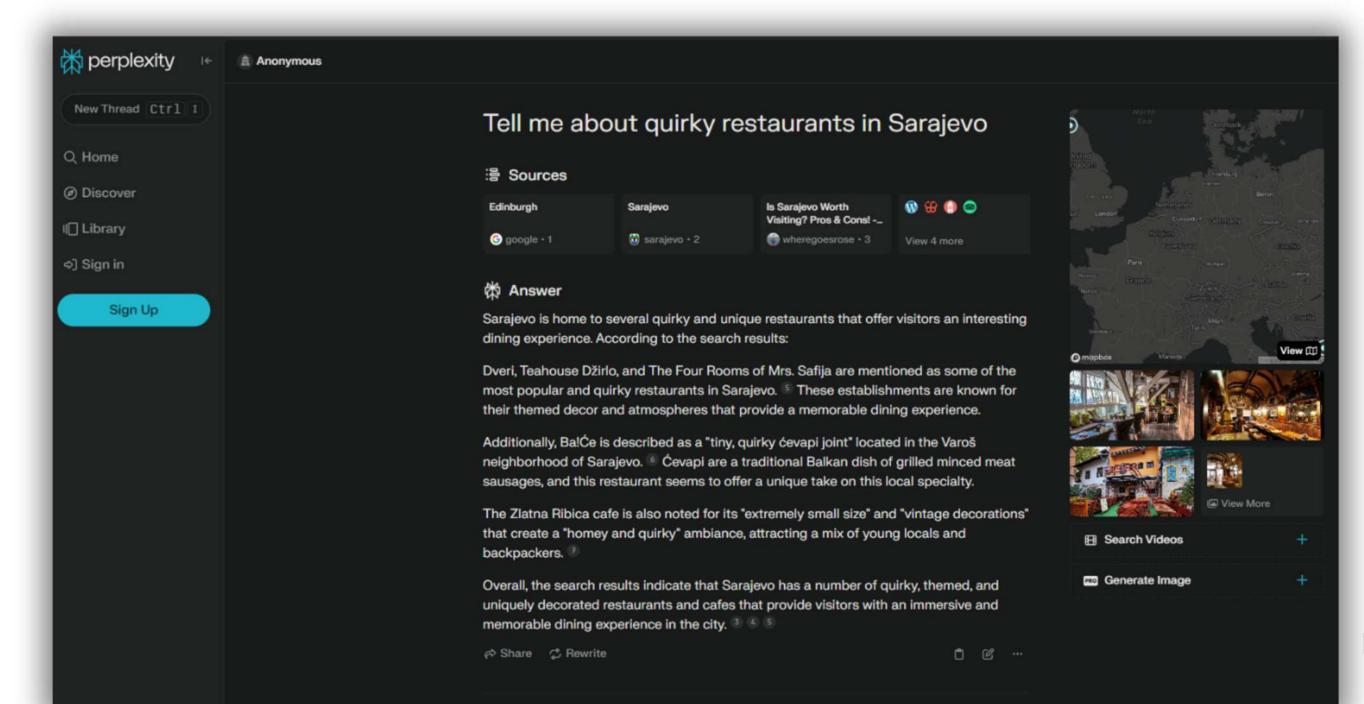
AGENCY





#### Improved Search?

Finding the right thing, not just those that paid the most

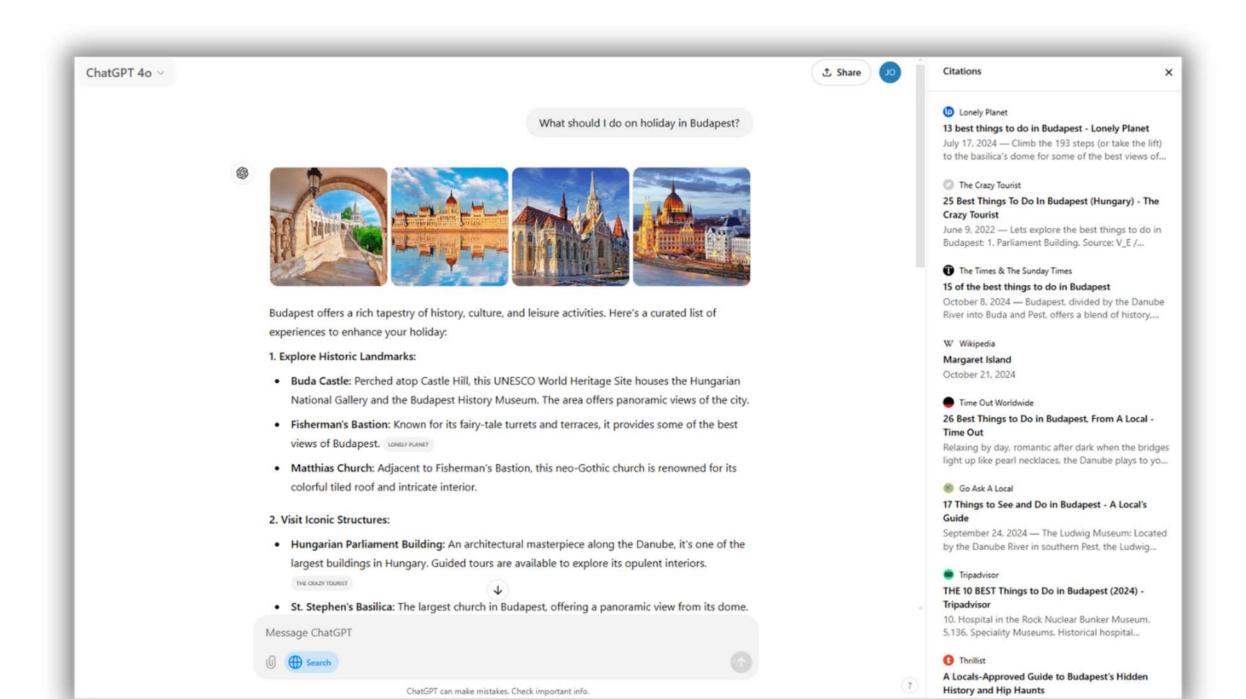






#### Improved Search?

Finding the right thing, not just those that paid the most (for now)



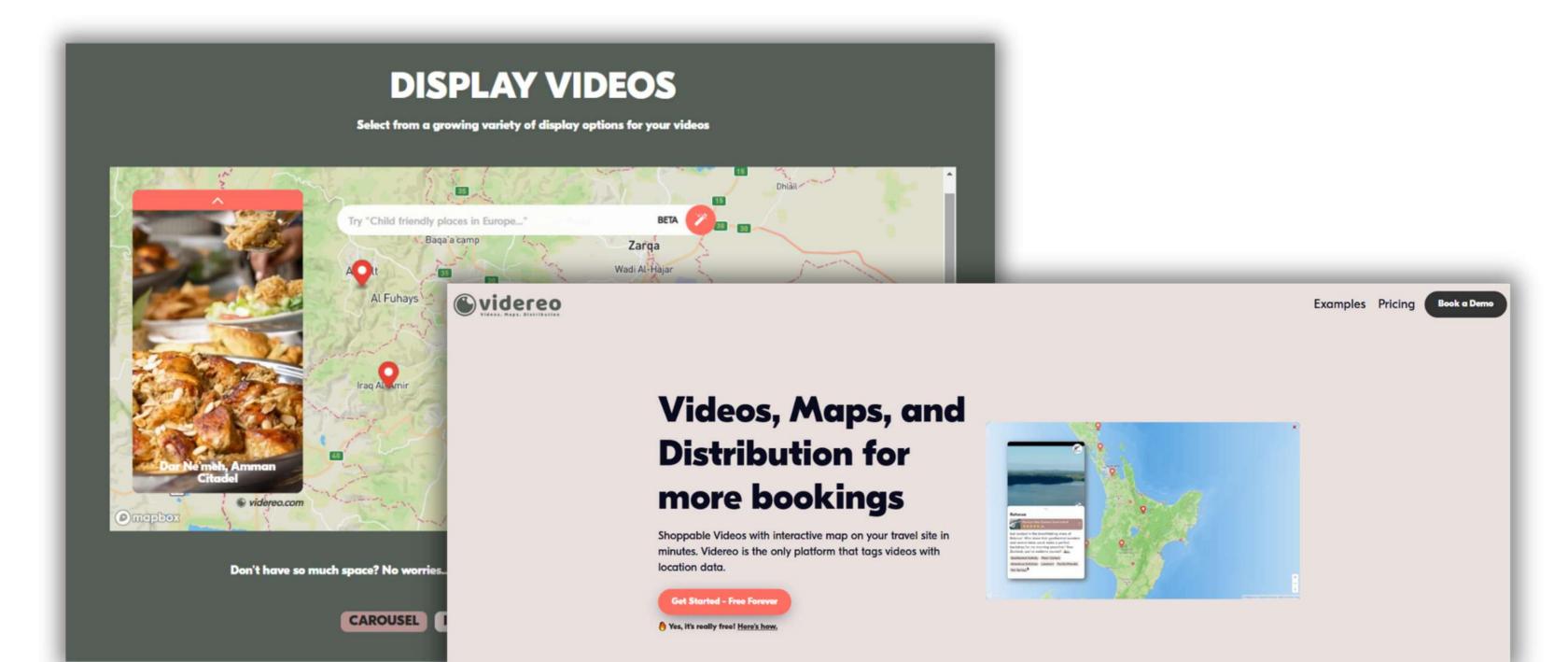
SearchGPT





#### What about social search?

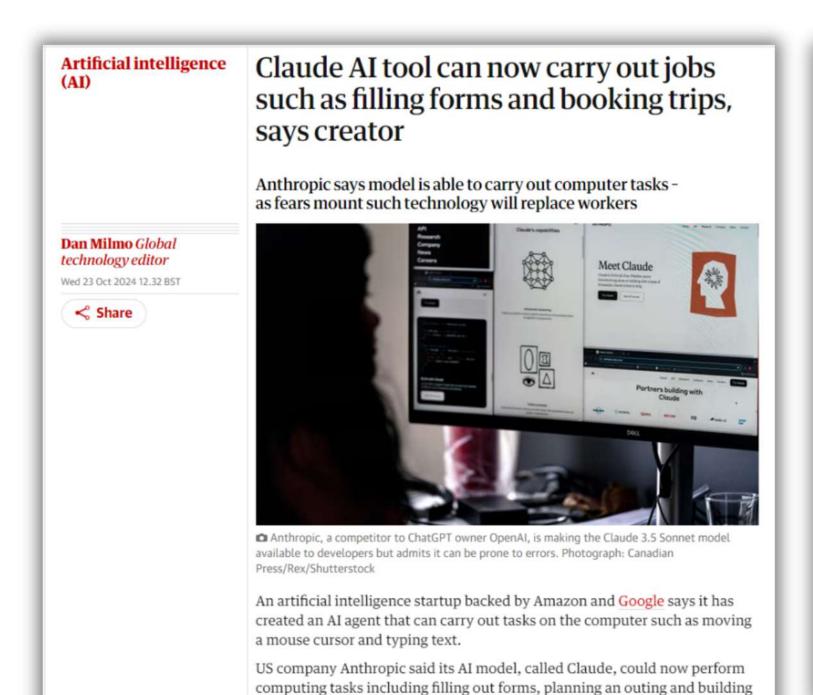
TikTok, YouTube Shorts, Instagram etc.

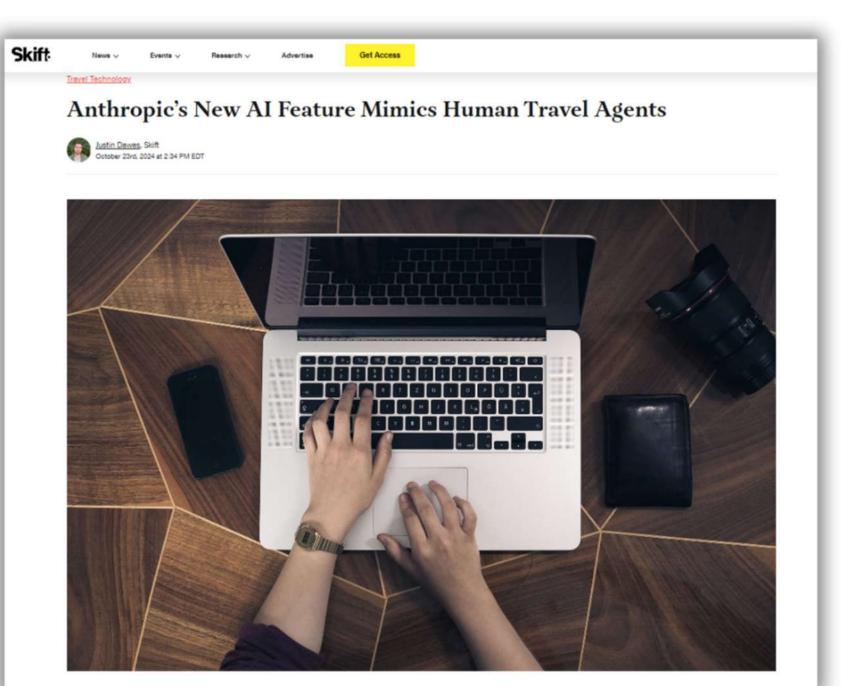




#### Al Agents

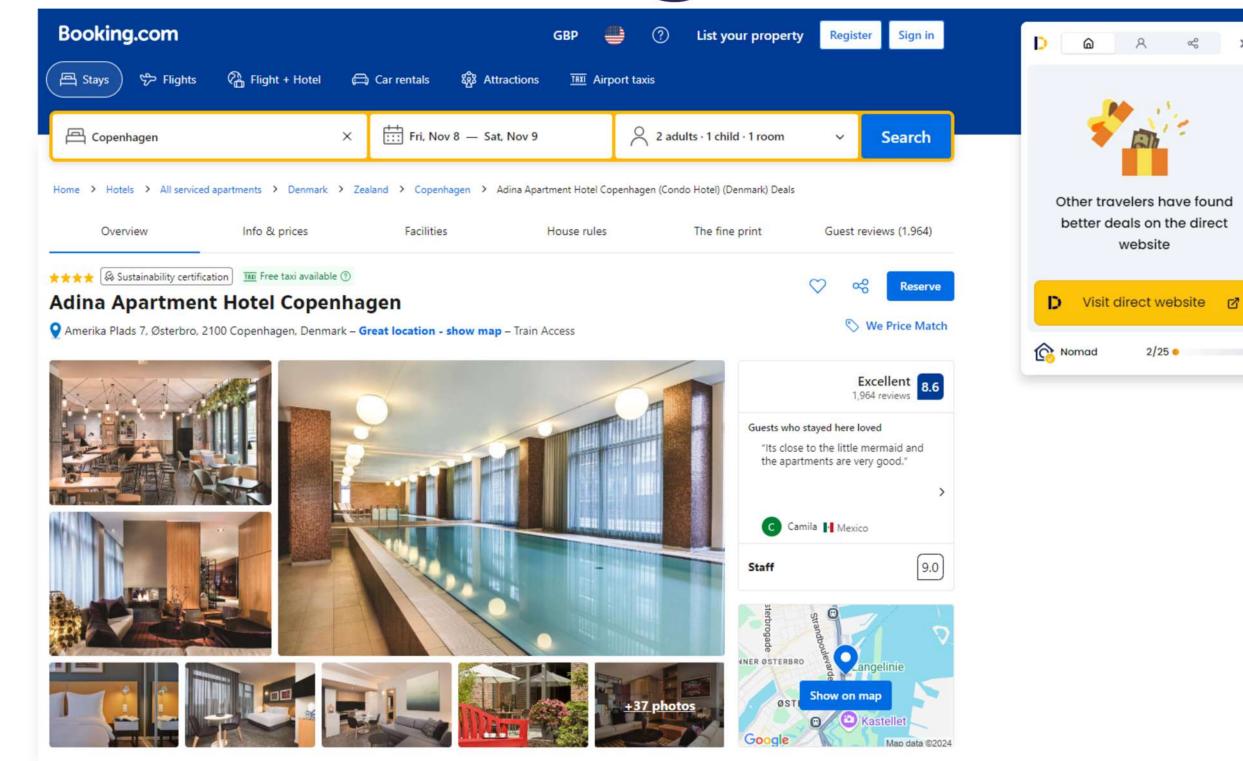
The importance of serendipity and surprise







#### Direct Booking







#### Get detailed and specific...

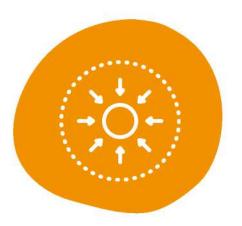
Helping visitors find their specific niche and needs



Free form chat enables more nuanced questions...



Actively work to rank highly in the most popular models



Specific and detailed local info about your business



Refresh the data and use the latest models!







#### **QUESTION 4:**

How are you using Al within your business?

Do you have a policy?





# How is Al practically helping SMEs?

The organisational models to innovate with Al







### Supporting Employees

Tailored Als embedded across Holiday Extras



**Anything (Conversational)** 

360 feedback summary

**HX** tone of voice

Help to give feedback

**Objective writer** 

Write me an email

Merchandising

Contract or T&Cs review

Report writer

German/English translator

Jargon buster

Query chat scoring

**Booking opportunity scoring** 

**Email scoring** 

**Growth Strategy** 

**Image Creator** 





### Supporting Employees

Tailored Als embedded across Holiday Extras

95% of employees used ChatGPT pw 92% saving over two hours pw

Over 500 hours saved pw

**Anything (Conversational)** 

360 feedback summary

**HX** tone of voice

Help to give feedback

**Objective writer** 

Write me an email

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Contract or T&Cs review

Report writer

German/English translator

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**Email scoring** 

**Growth Strategy** 

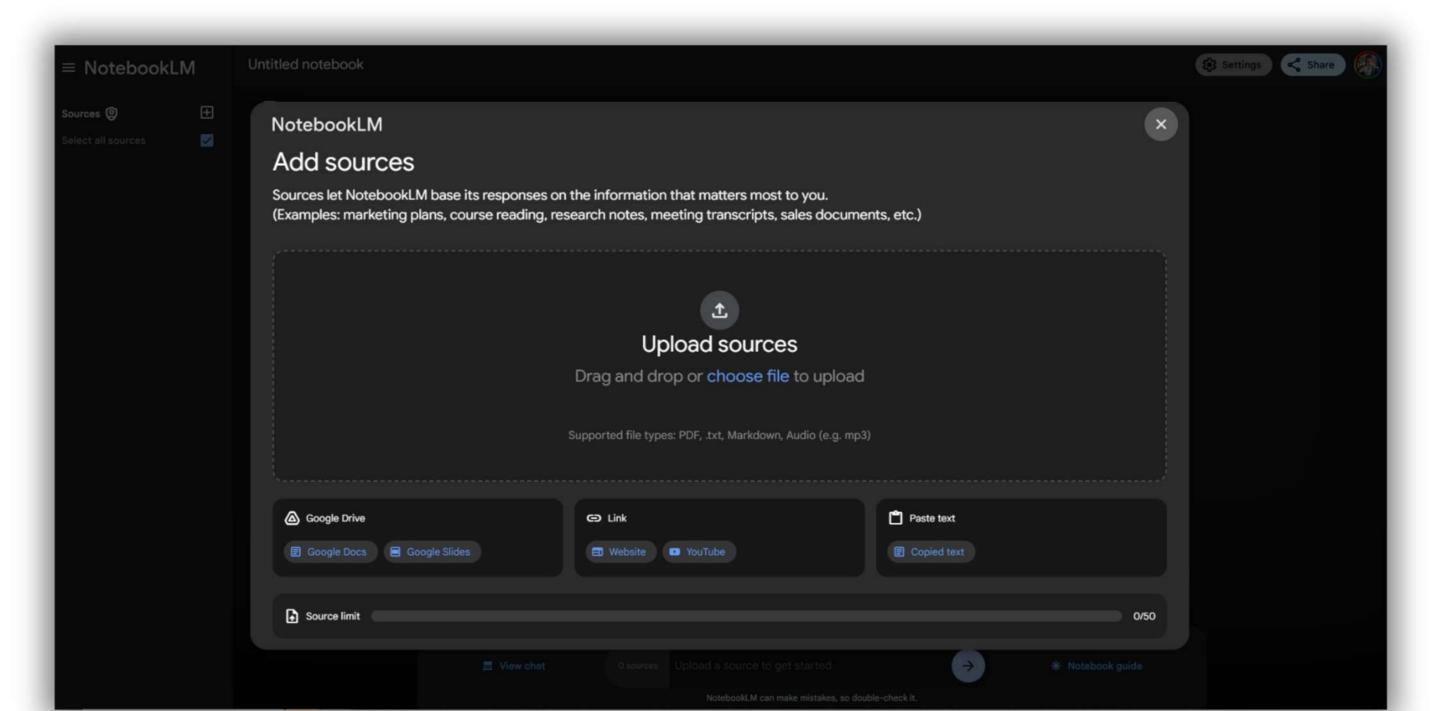
**Image Creator** 





# Knowledge Bases

Your own podcast...



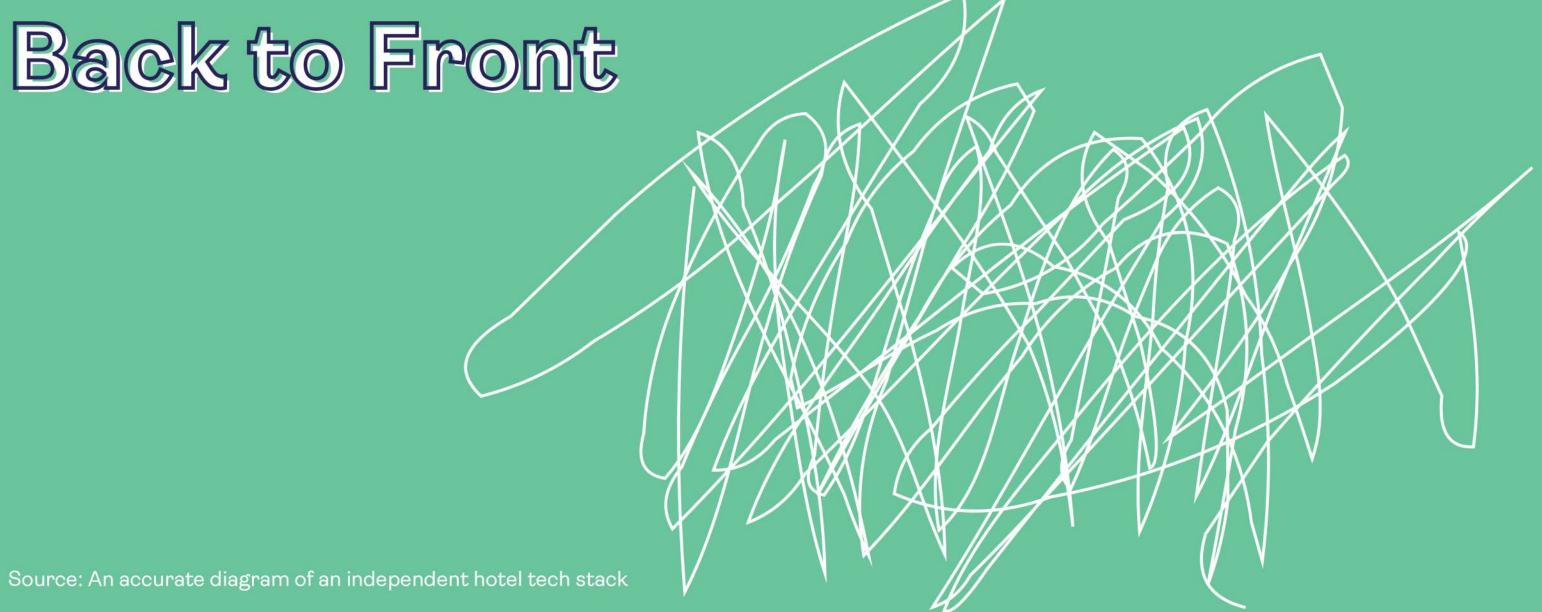
GoogleLM Notebook















### Process Automation



systems

Collecting financial data from various

**...** 



Compiles data into a standard format



Automatically generating a financial report



Rapid insights, trends, and forecasts

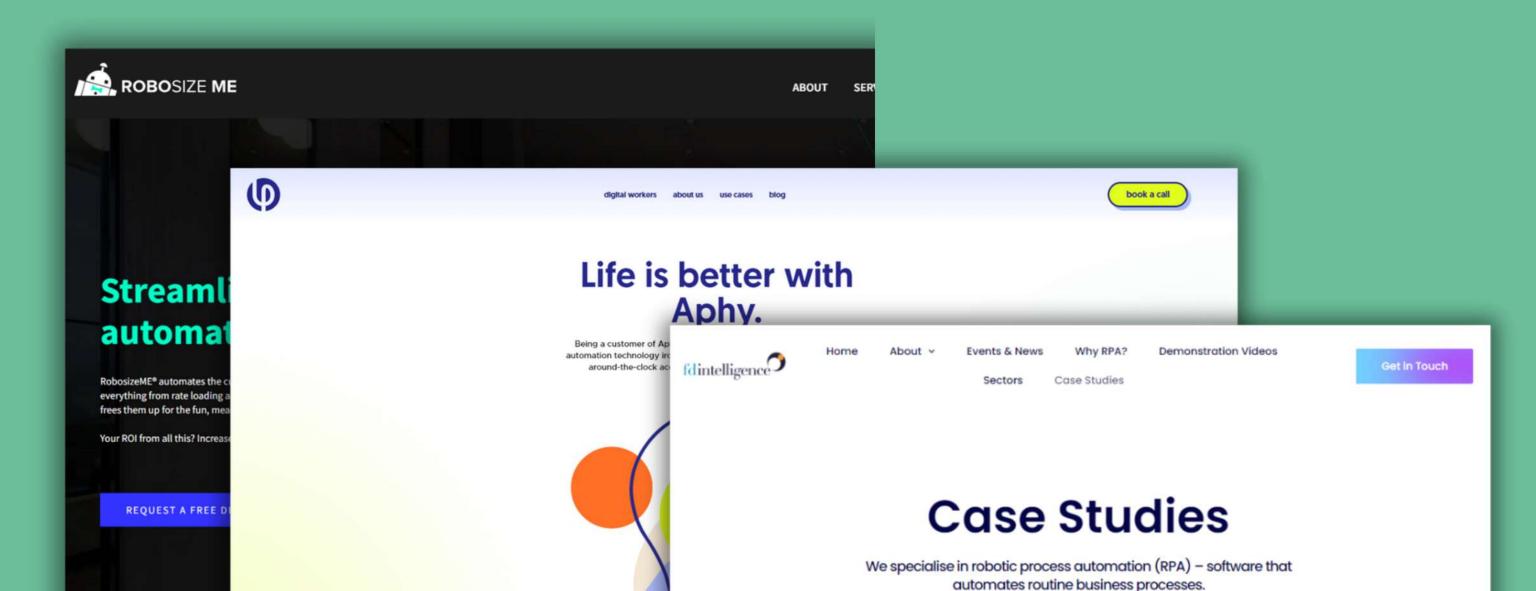


Business Decision-Making

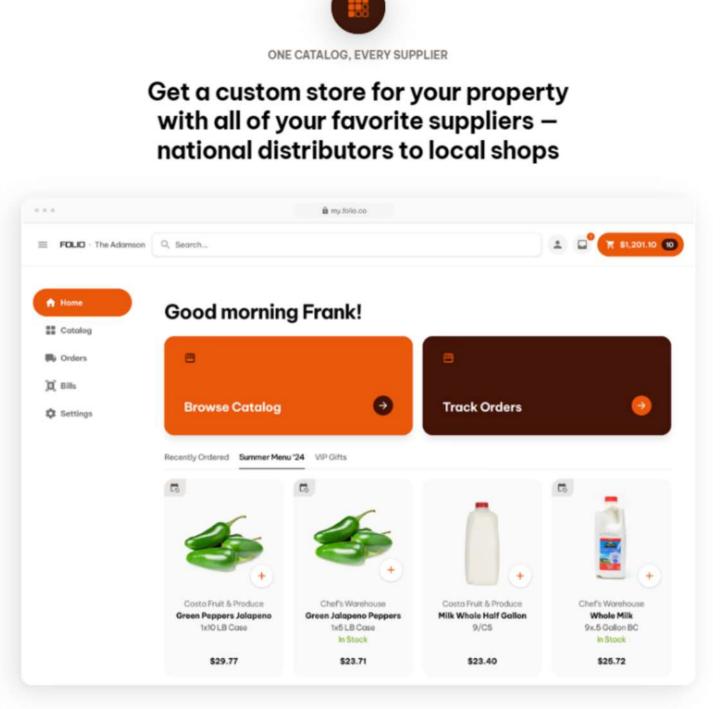




### Process Automation (RPA) + Al







#### 2,82 A,34A.8 3,081.90 395.0A 6 1,0935 448.64 1,186.19 135,8 157,045.1. 903,72 227.60 A,141.47 355.00 15,825.31 A2.58 138.35 1,604.31 4,523.49 89,719.38 1,562.66 613.54 16 853.30 1,421.37 1,741.01 18,677.81 1,402.81 2,571.77 411.99 272.18 62.49 131,656.03 260.62 2,972.16 531.05 487.49 900.51 116,643.51 1,109.95 1,585.57 101.49 1,435.03 2,058.91 22,336.56 60777 1,605.63 715.35 1,697.99 382.52 43,580.06 262.90 633.18 353.49 6 1,629.11 130,118.67 2 1,238.16 121.36 2,491.66 20 884.72 131,764.45 236.19 71.15 2,207.54 8.83 322.94 21,574.49 1,283.45 706.99 557.11 422.73 550.36 101,608.85 715.94 574.12 824.18 5,240.10 2 192 05 239.05 1122 1967 -256 046 23









# Being responsible

Considering the ethical and environmental dimensions when using Al...







### QUESTION 5:

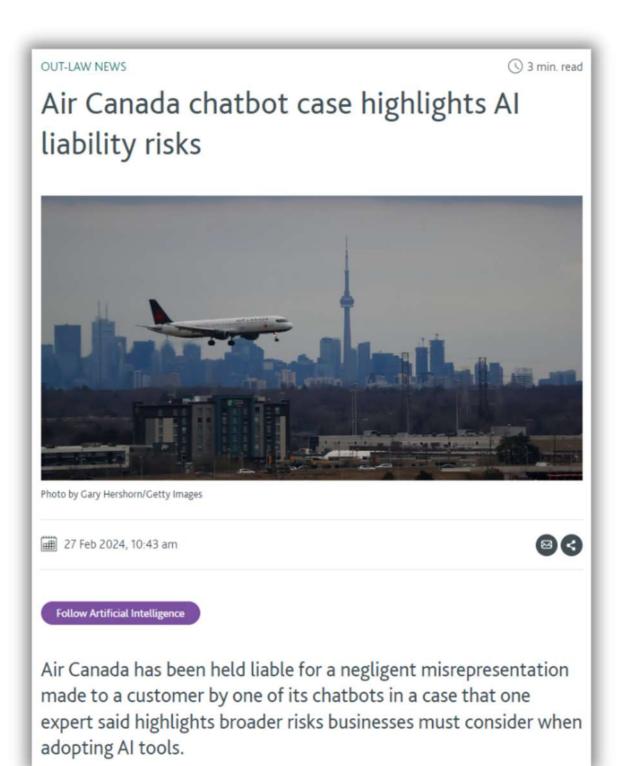
What is your biggest concern or fear regarding the use of Al in tourism?



### Hallucinations

Failure to implement sufficient Al guardrails







### Test, Test, Test

Mitigating the Air Canada mishap!



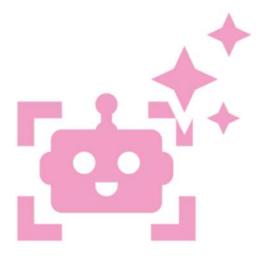
Dial down model autonomy



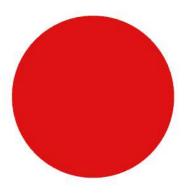
Only using your data



Quality Assurance Al



Al Agents checking Al Agents



Red Team - test and refine



### The Ethical Questions

Share free access

How can we use this ethically?



#### The Times Sues OpenAI and Microsoft Over A.I. Use of Copyrighted Work

Millions of articles from The New York Times were used to train chatbots that now compete with it, the lawsuit said.



Analysis May 18, 2023 Why Harry Potter is the copyright timebomb under generative AI models Court cases roll in and regulators are beginning to act Kai Nicol-Schwarz and Tim Smith 5 min read

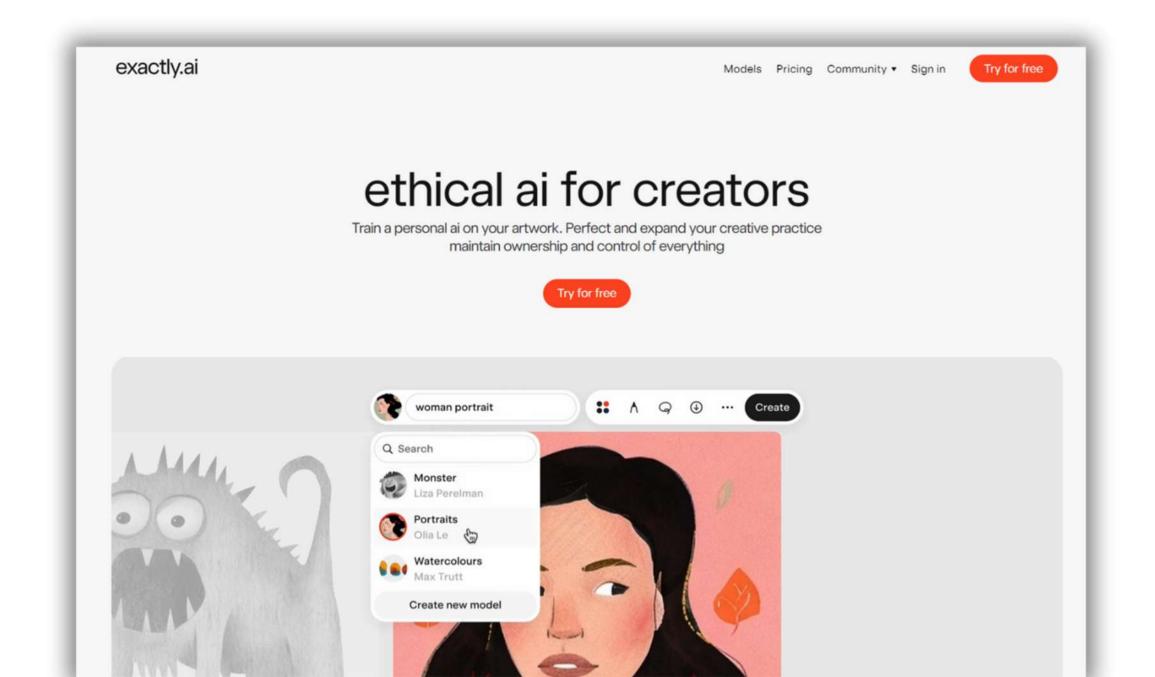






# In my style...

Al image generation in the style of unique creators

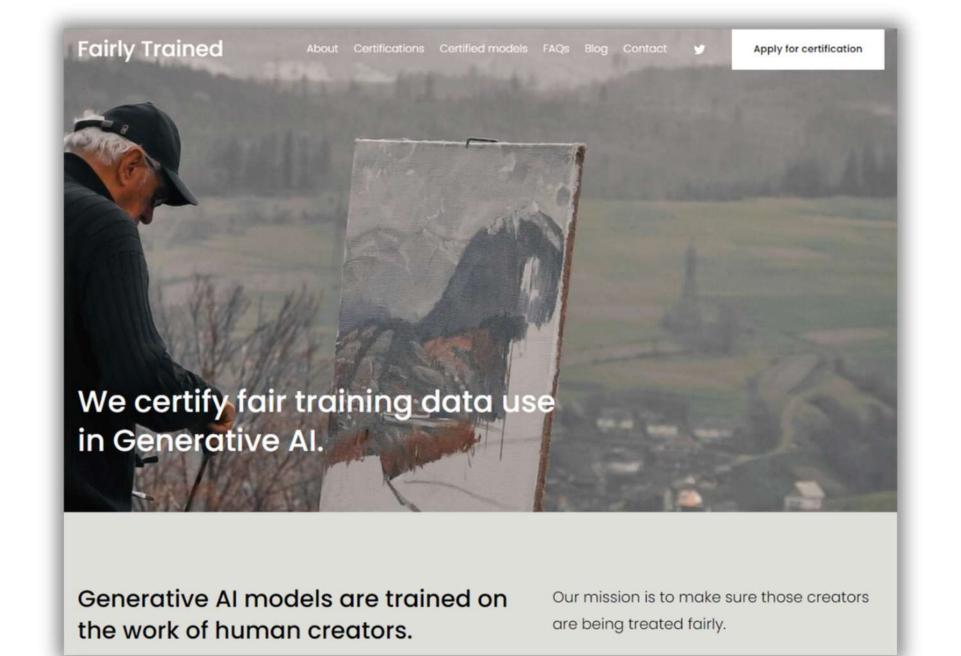






### Consent needed

Only trained on images where consent is explicitly granted

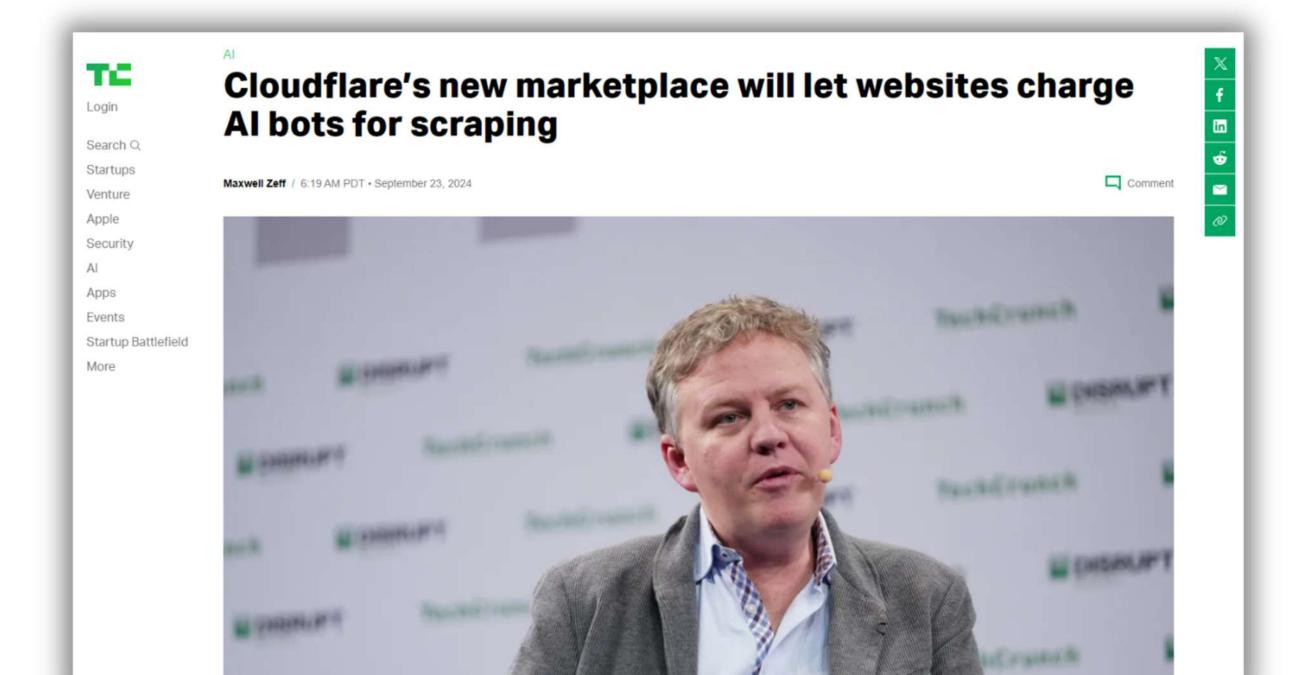






### Scraping the barrel?

New economics of Al?







# Huge Climate Impact







"We generally trust others until given a reason to do otherwise. However, as the output from large language models and generative Al becomes increasingly indistinguishable from that produced by humans, it's time to consider a new paradigm:

"default to distrust"



SHELLY PALMER





### The Ethical Questions

How can we use this ethically?

Data Privacy

False or Misinformation

Biased Responses

Black Box Problem

Legal and Copywright Climate

#### Tiraveltech THE UNIVERSITY of EDINBURGH

### Collective Intelligence

Working with Al

Data Privacy

False or Misinformation

Black Box Problem Legal ar Copywr

#### GEOFF MULGAN





HOW COLLECTIVE INTELLIGENCE
CAN CHANGE OUR WORLD



### "FOMO is not a Strategy"

Rachel Coldicutt, Careful Industries

### When to use Al?



Need a second opinion?



Perfect accuracy is not expected



Better than available human

# Skills for Al Adoption



### Using the 'Tools'

Like Google Gemini, Claude, ChatGPT



### **Buyer & Builder**

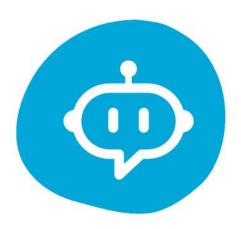
'Productionise - often using open source models or enterprise Al





### Easy Starting Points

How to get started?

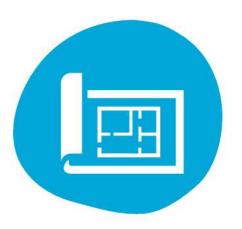


**Internal FAQ Bots** 

[GPT (OpenAI) or LM Notebook or Claude Project]



Labeling photos for website accessability



Give curators and designers access to the tools



Collaborate with students, startups, academics and with each other!

### "FOMO is not a Strategy"

But it's still fun to play!



### Al Adoption Journey

How should attractions do this?



Consider staff dedicated to Al

(If you're big enough to have your own IT team)



Where can you: add the most value, or save the most time



lt's all about the data that underpins it



Practical Prototyping





# Traveltech for Scotland

# THE UNIVERSITY of EDINBURGH Edinburgh Futures Institute

#### joshua.ryan-saha@ei.ed.ac.uk www.traveltech.scot

