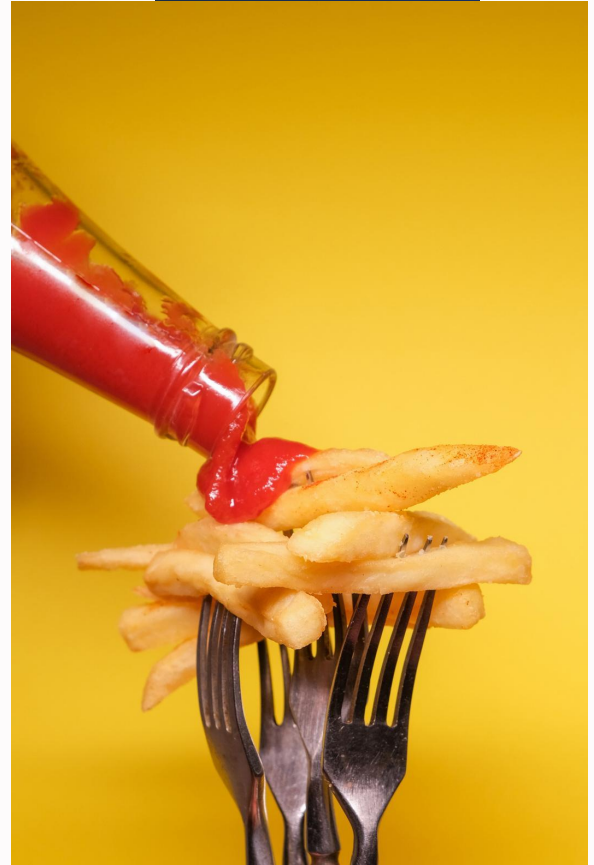


# DF Labs

## AI NEWS UPDATES

September 15th, 2024



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- **News**
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# NEWS

TheRundownAI, X, etc

# xAI launched “Colossus”



Elon Musk’s **xAI** just **launched “Colossus”**, the world’s most powerful AI cluster **powered by** a whopping **100,000 Nvidia H100 GPUs**, which was **built in just 122 days** and is **planned to double in size soon**.

- Colossus consists of **100k liquid-cooled Nvidia H100 GPUs connected on a single network fabric** and is considered the “most powerful” in the world, according to Musk.
- The system was **built and launched in just 122 days**, an incredibly quick accomplishment that was brought online over a holiday weekend in the United States.
- xAI **plans to expand** Colossus to **200,000 GPUs (50,000 H200s)** in the **coming months**.
- In a recent podcast, Elon Musk (founder of xAI) said Grok 2 was trained on only around 15,000 GPUs.

Post: [Elon Musk on X](https://x.com/elonmusk/status/1830650370336473253)

# Ilya Sutskever raises \$1B for AI safety



**Safe Superintelligence (SSI)**, a new AI startup co-founded by former OpenAI chief scientist Ilya Sutskever, just **raised \$1 billion in funding** to develop safe AI systems that surpass human intelligence.

- SSI **plans to focus on AI safety**, aiming to create superintelligent AI systems that are safe for humans and **will spend years on R&D** before bringing any product to market.
- Sutskever, Daniel Gross, and Daniel Levy founded SSI just three months ago, and **the company is now valued at \$5 billion**.
- The startup, which only has ten employees, plans to **use the funds to acquire computing power and hire top talent**.
- **Investors include** major venture capital firms like **Andreessen Horowitz** and **Sequoia Capital**.

**Article:** [Exclusive: OpenAI co-founder Sutskever's new safety-focused AI startup SSI raises \\$1 billion | Reuters](https://www.reuters.com/technology/artificial-intelligence/openai-co-founder-sutskevers-new-safety-focused-ai-startup-ssi-raises-1-billion-2024-09-04/)

# iPhone 16 gets AI superpowers



**Apple** just announced the brand new **iPhone 16**, built from the ground up with its latest **A18 chip** and the **full suite of Apple Intelligence (AI)** features designed to transform how users interact with their devices.

- **Writing Tools:** AI can rewrite emails and notes, creates custom emojis for conversations, and edits anywhere you type.
- **Photos and Videos:** AI instantly finds specific photos or videos based on natural language search.
- **Priority and Focus:** AI summarizes emails and notifications to highlight what is important and surfaces prioritized notifications to keep you focused on what matters.
- **Visual Intelligence:** With Apple's new camera, on-device AI analyzes images without storing them and quickly connects to third-party tools like ChatGPT.
- **Siri:** Apple's virtual assistant can now better understand complicated natural language requests, pull in context to help answer questions, and take actions on your phone at your request.

**Article:** [iPhone 16 and iPhone 16 Plus - Apple](https://www.apple.com/iphone-16/)

# Amazon's Alexa gets a Claude power-up



Amazon's upcoming "Remarkable" version of **Alexa is set for release next month** and will reportedly **use Anthropic's Claude AI models** rather than Amazon's in-house technology.

- **Initial versions using Amazon's in-house AI struggled** with slow response times and poor performance.
- Amazon turned to Anthropic's Claude AI as it outperformed the company's models, an unusual move for the giant which typically prefers to use its own tech.
- The upgraded Alexa **aims to offer more complex conversations, shopping advice, and improved home automation.**
- Amazon **plans to charge \$5 to \$10 monthly for the new AI-powered Alexa version**, with the "Classic" version remaining free.

**Article:** [Ask Claude: Amazon turns to Anthropic's AI for Alexa revamp | Reuters](https://www.reuters.com/technology/artificial-intelligence/amazon-turns-anthropics-claude-alexa-ai-revamp-2024-08-30/)

# TOOLS

**TheRundownAI, Hugging Face, GitHub, etc**



# OpenAI unveils o1: A new 'reasoning' AI model

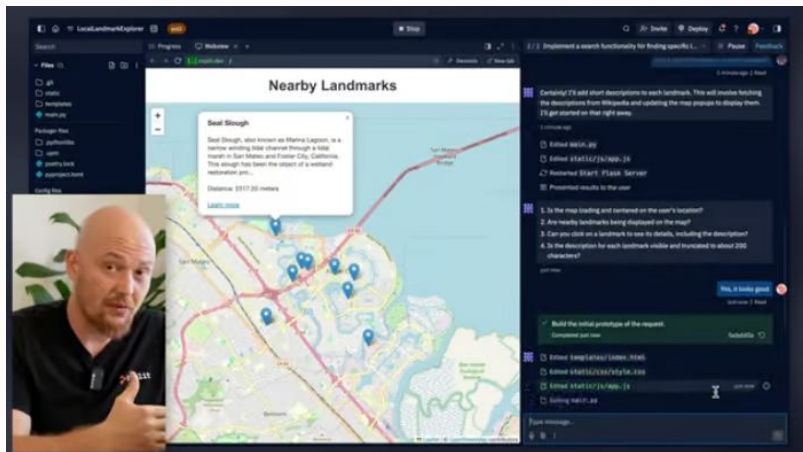


**OpenAI** has officially released '**o1**' (internally known as Project Strawberry/Q\*), its first AI model with **advanced 'reasoning' capabilities** now integrated into **ChatGPT for Premium and Teams users**.

- o1 uses **reinforcement learning** and **chain-of-thought** processing to "think" before responding, mimicking human problem-solving.
- Two versions available: **o1-preview** and **o1-mini** — has been rolled out to all ChatGPT Premium and Teams users.
- **API access is more expensive than GPT-4o**, at \$15 per 1M input tokens and \$60 per 1M output tokens.

**Article:** [Introducing OpenAI o1 | OpenAI](https://openai.com/index/introducing-openai-o1/)

# New AI agent builds apps from prompts



**Replit** just **launched** an AI-powered tool called **Replit Agent** that can create software applications based on simple text descriptions, making coding more accessible to people of all skill levels.

- Users can **describe the app** they want to build **in natural language**, and the **AI will generate a customizable plan and start to code**.
- The agent can **choose appropriate technologies and frameworks** for the project and **create web-based apps from scratch**.
- **Users can also interact with the agent**, providing feedback and additional information as needed.
- The tool is **available** now on both web and mobile platforms **for Replit Core and Teams subscribers**.

Article: [Replit Agent | Replit Docs](https://docs.replit.com/replitai/agent)

# Mistral releases multimodal Pixtral 12B



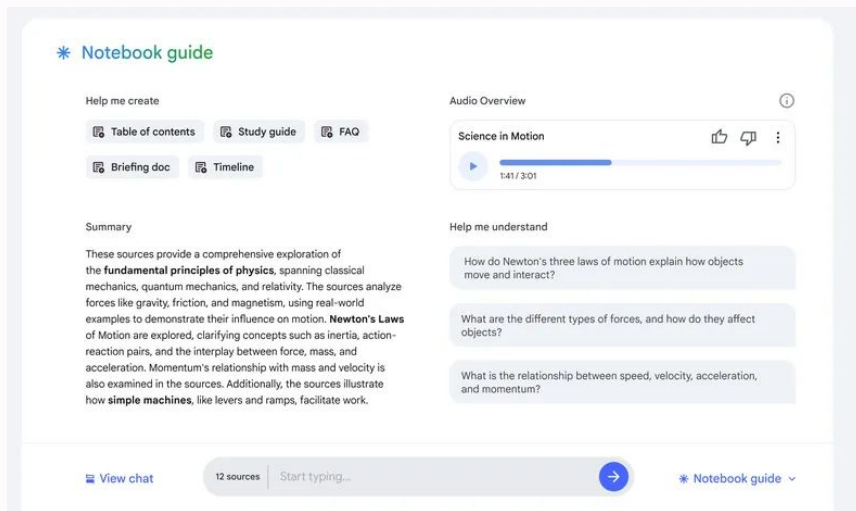
French AI startup **Mistral** has **released Pixtral 12B**, its first **multimodal model** capable of processing both images and text, available for free download under an Apache 2.0 license.

- Pixtral 12B is a **12-billion-parameter model**, about 24GB in size, **built on** Mistral's text model **Nemo 12B**.
- Pixtral 12B is the **startups first multimodal model**, meaning it can process and answer questions about images, as well as text.
- It's **available** for download **via GitHub and Hugging Face** under an Apache 2.0 license, allowing unrestricted use and fine-tuning.
- Mistral **plans to make Pixtral 12B available on their chatbot and API platforms**, Le Chat and Le Plateforme, soon.

**Hugging Face:** [mistral-community/pixtral-12b-240910](https://huggingface.co/mistral-community/pixtral-12b-240910)

**Post:** [Mistral AI on X](#)

# Google turns your notes into podcasts

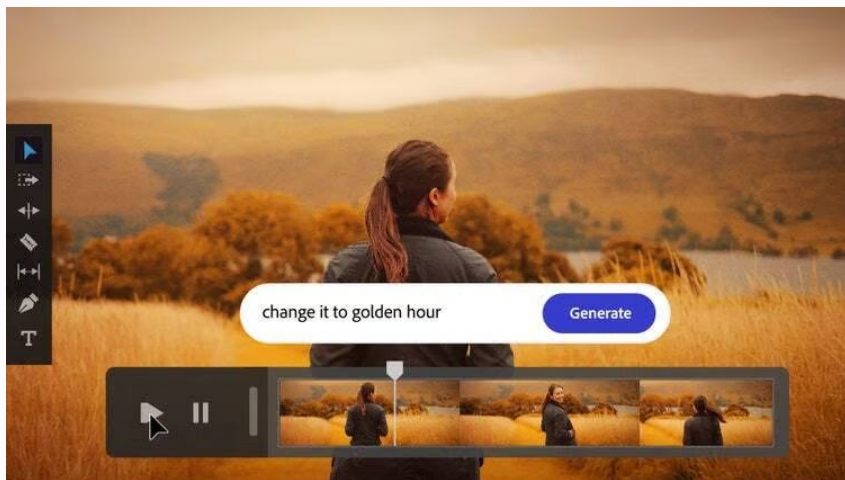


Google just launched **Audio Overviews**, a new feature in **NotebookLM** that **turns** notes, PDFs, Google Docs, Slides, and more **into AI-generated audio discussions between two virtual AI agents**.

- Audio Overview **creates** a "deep dive" **conversation from uploaded sources**, with AI hosts summarizing content and connecting topics across materials.
- The tool works with **various source types** (documents, slides, charts, web URLs) **using Gemini 1.5's multimodal capabilities**.
- To use Audio Overviews, open an existing notebook, navigate to the Notebook guide, and click on the "generate" button on the right-hand side.
- NotebookLM can **process up to 50 sources, each up to 500,000 words**, allowing for a total of 25 million words to be considered when generating the audio.

**Article:** [NotebookLM now lets you listen to a conversation about your sources \(blog.google\)](https://blog.google/technology/ai/notebooklm-audio-overviews/)

# Adobe previews new AI video model



**Adobe** just **previewed** its **Firefly AI Video Model**, which includes tools to **extend existing videos** and **create new clips from text or image prompts**, coming before year end.

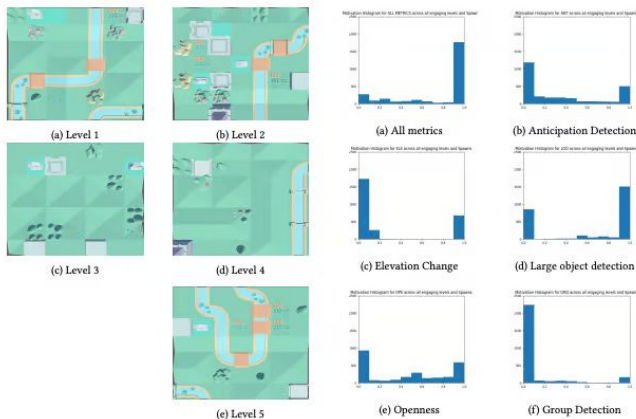
- Three key features are coming: **Text to Video**, **Image to Video**, and **Generative Extend**.
- Text to Video can create clips from prompts, with options for camera controls and reference images.
- Image to Video transforms still images or illustrations into live-action clips.
- Generative Extend, coming to Premiere Pro beta, can add footage to cover gaps or extend shots.

**Article:** [Bringing generative AI to video with Adobe Firefly Video Model | Adobe Blog](https://blog.adobe.com/en/publish/2024/09/11/bringing-gen-ai-to-video-adobe-firefly-video-model-coming-soon)

# RESEARCH

TheRundownAI, arXiv, Hugging Face, etc

# AI rates fun factor of video game levels

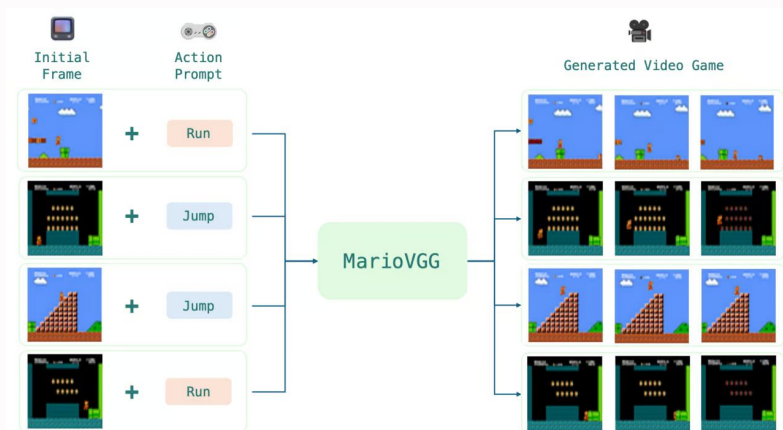


Researchers recently developed **AI agents that can “play”** procedurally-generated **video game levels to evaluate how engaging they are for human players**, helping to quicken the pace of game design.

- Researchers used AI agents to explore levels from the video game Super Mario Bros for high places, interesting objects, and more.
- The AI explored five “engaging” and five “unengaging” levels, **judging** them **based on factors** like how much of the level they covered and how many new things they found.
- The AI agents **consistently rated the engaging levels higher than the unengaging ones.**
- This technique **could help** game designers **automatically test and improve their levels before human playtesters** try them.

**Paper:** [Evaluating Environments Using Exploratory Agents \(arxiv.org\)](https://arxiv.org/pdf/2409.02632)

# AI creates infinite Super Mario Bros game



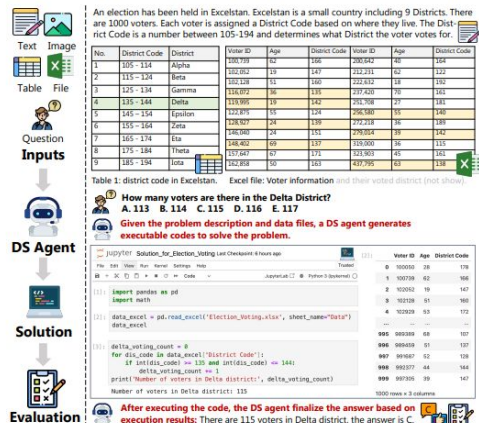
Researchers developed an AI system called **MarioVGG** that can **generate an infinitely playable Super Mario Bros game entirely through video**, without using a traditional game engine.

- MarioVGG is a **text-to-video** AI model **trained specifically on Super Mario Bros gameplay with a single consumer-grade GPU** in just 48 hours.
- It can generate continuous, infinite game footage based on simple text commands like "run" or "jump".
- The AI simulates game physics, mimics character movements, and even creates new levels on demand.

**Paper:** [VideoGameGen.pdf \(virtual-protocol.github.io\)](https://virtual-protocol.github.io/mario-videogamegen/static/pdfs/VideoGameGen.pdf)



# DSBench: How Far Are Data Science Agents to Becoming Data Science Experts?



An election has been held in Excelstan. Excelstan is a small country including 9 Districts. There are 1000 voters. Each voter is assigned a District Code based on where they live. The District Code is a number between 105-194 and determines what District the voter votes for.

No.	District Code	District	Voter ID	Age	District Code	Voter ID	Age	District Code
1	105 - 134	Alpha	1050793	62	166	200342	70	165
2	115 - 124	Beta	102282	53	147	212211	63	122
3	125 - 134	Gamma	102128	71	160	222342	68	159
4	145 - 164	Delta	103072	36	135	237420	70	161
5	145 - 154	Epsilon	103365	53	142	261708	27	180
6	155 - 164	Zeta	103627	24	139	272218	66	189
7	165 - 174	Eta	103940	24	155	299354	68	142
8	175 - 184	Theta	104242	69	137	325200	36	155
9	185 - 194	Iota	104538	50	143	407799	68	134

Table 1: district code in Excelstan. Excel file: Voter information and their voter district (not show).

**How many voters are there in the Delta District?**  
A. 115 B. 114 C. 115 D. 116 E. 117

Given the problem description and data files, a DS agent generates executable codes to solve the problem.

```
ipython Solution_for_Election_Voting_Lee Cheukwan 4 hours ago
File Edit View Help Kernel Settings Help
In [1]: data_excel = pd.read_excel('Election_Voting.xlsx', sheet_name='Data')
data_excel
Out[1]:
   Voter ID  Age  District Code
0  1050793   62         166
1  200342   70         165
2  102282    53         147
3  212211   63         122
4  102128   71         160
5  222342   68         159
6  103072    36         135
7  237420   70         161
8  103365   53         142
9  261708   27         180
10 103627   24         139
11 272218   66         189
12 103940   24         155
13 299354   68         142
14 104242   69         137
15 325200   36         155
16 104538   50         143
17 407799   68         134
18 100000   28         178
19 100070   42         166
20 100050   69         147
21 101028   51         160
22 102020   63         172
23 99900000   66         107
24 99900010   51         137
25 99900020   42         128
26 99900030   44         144
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**DF Labs**