**Department of Data Science**
**Weekly Data Science Bytes**

# In a race between humans and robots, machine stake the victory in a sign of advancements

The bipedal humanoid, developed by smartphone maker Honor, blazed through the 13-mile race in just 50 minutes, 26 seconds, besting all 12,000 human competitors and even surpassing the human world record for a half-marathon, set by Jacob Kiplimo in Lisbon last month, by nearly seven minutes. Lightning was slowed down only slightly when it crashed into a railing near the end of the race, with the machine helped back up, recovering to make a dramatic finishIt was a clean sweep for Honor's robots, which also took second and third place medals on the podium. "I felt very nervous," said Ma Huaze, captain of one of the winning Honor teams. "The biggest challenge was having the courage to perform and test large-scale upgrades on a major competitive stage like this."


**Source: https://www.nbcnews.com/world/china/humanoid-robots-race-humans-beijing-half-marathon-showing-rapid-advanc-rcna340842**

# Elon Musk's X to launch standalone 'XChat' for iPhone, iPads: What's coming

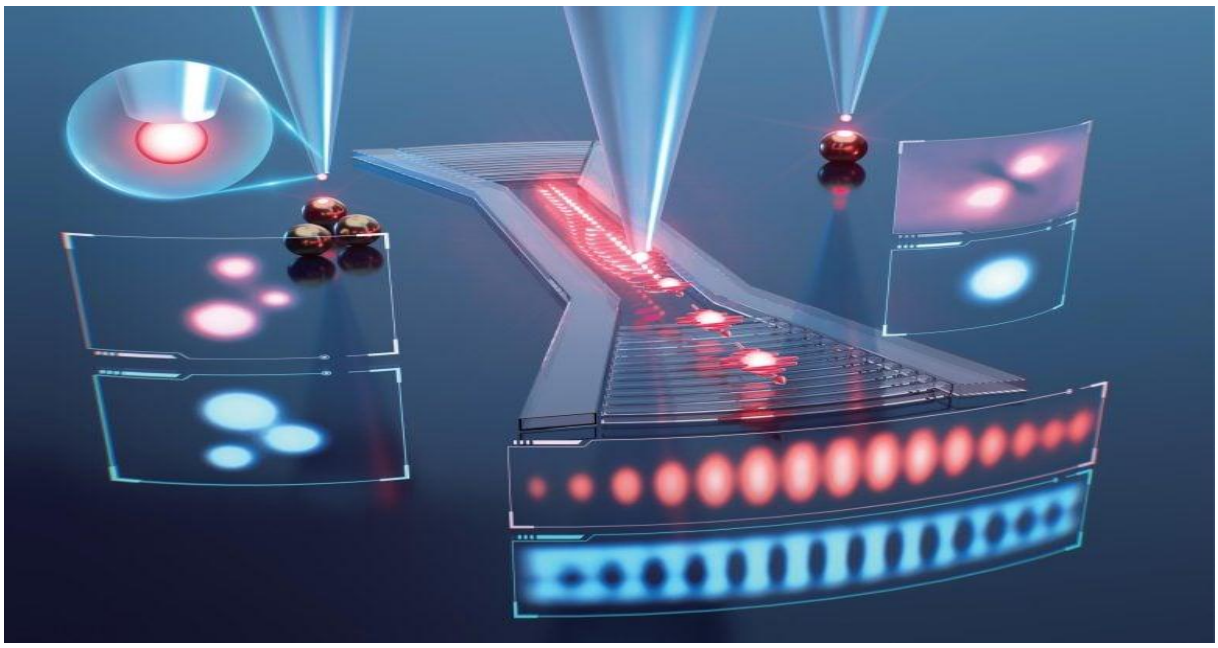

X is preparing to launch its new standalone messaging app, XChat, for iPhone and iPad users. According to its listing on the App Store, the app is currently available for pre-order and is expected to be available for download on April 17. Based on the listing, XChat will bring features such as encrypted messaging, disappearing chats and support for large group conversations, marking a shift from X's existing in-app direct messaging system.

## What XChat is and how it is different from messaging on X

According to a report from Engadget, XChat is not related to the older Internet Relay Chat (IRC)-based service that shared a similar name. Instead, it is a new messaging platform built specifically for users of X.

Source: https://www.business-standard.com/technology/tech-news/elon-musk-s-xchat-to-launch-on-iphone-ipads-what-s-coming-126041300208_1.html

# Scientists Break Optical Limits With Quantum Dot-Powered Nanoscopy



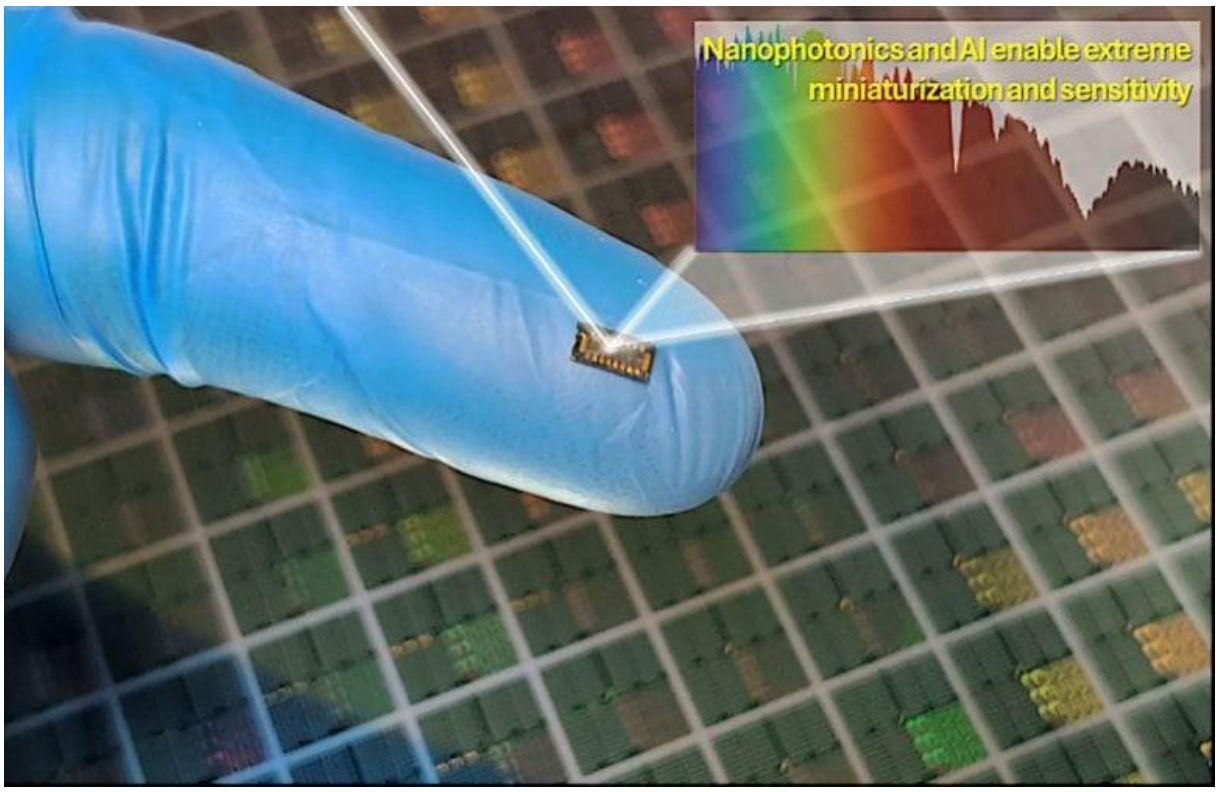
**A powerful new microscopy technique unveils hidden nanoscale light interactions, offering a glimpse into physics that conventional tools cannot resolve.**

Over the past ten years, advances in nanofabrication have made it possible to shape materials at scales as small as 10 nanometers and even down to individual atoms. These capabilities have pushed nanophotonics into a new domain often described as deep nanoscale optics.

At such extremely small scales, interactions between light and matter become much stronger than previously observed. This opens the door to discovering new physical phenomena and developing advanced technologies. Precisely mapping light fields and the local density of optical states (LDOS) at resolutions of just a few nanometers is essential for progress in both fundamental research and practical applications.

Source: https://scitechdaily.com/scientists-break-optical-limits-with-quantum-dot-powered-nanoscopy/

# Scientists Shrink a Lab Spectrometer to the Size of a Grain of Sand




For decades, analyzing the chemical makeup of materials, whether for medical diagnosis, food inspection, or pollution monitoring, has relied on large and costly laboratory instruments known as spectrometers. These systems work by splitting light into its component colors using a prism or grating, then measuring the intensity of each wavelength. Because this process requires light to travel a relatively long distance, the instruments tend to be bulky and difficult to shrink.

Researchers at the University of California, Davis (UC Davis), have now taken a different approach to miniaturization. In a study published in *Advanced Photonics*, they describe a spectrometer reduced to the scale of a grain of sand. This compact spectrometer-on-a-chip is designed for integration into portable devices. Instead of separating light into a spectrum physically, the system relies on computational reconstruction.

Source: https://scitechdaily.com/scientists-shrink-a-lab-spectrometer-to-the-size-of-a-grain-of-sand/

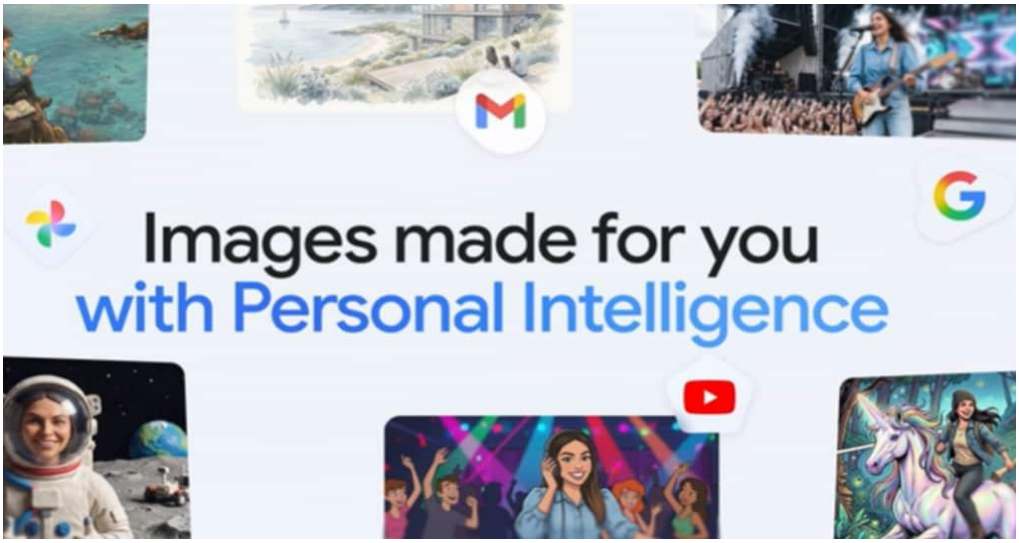
# Is AI Really Just a Tool? It Could Be Altering How You See Reality

When generative AI systems produce false information, this is often described as AI "hallucinating at us"—producing errors that people may mistakenly accept as true.

A new study, however, suggests a more complex issue: humans may begin to hallucinate *with* AI.
Lucy Osler of the University of Exeter examines how interactions between people and AI can contribute to inaccurate beliefs, distorted memories, altered self-narratives, and even delusional thinking. Using distributed cognition theory, the research looks at cases where users' false beliefs were reinforced and expanded through ongoing exchanges with AI systems acting as conversational partners.

Source:https://scitechdaily.com/is-ai-really-just-a-tool-it-could-be-altering-how-you-see-reality/

**Nano Banana can now use your Google Photos for AI image generation: Here's how it works**




- Your camera roll could now double up as an AI canvas. Google on Thursday said it is letting its Gemini chatbot tap into users' private photo libraries to create personalised images, marking a deeper shift toward data-driven AI experiences.
- The company announced that users can opt in to a feature called Personal Intelligence, which connects Gemini with other Google services to deliver tailored responses. As part of this, its image generation tool, Nano Banana, will be able to access a user's Google Photos without requiring manual uploads.
- Once enabled, users can generate customised visuals using prompts that draw from their own images. For instance, Google said a user could ask Gemini to create a stylised image of themselves and their family, and the system would automatically use relevant photos from their library.

Source: https://www.storyboard18.com/brand-marketing/nano-banana-can-now-use-your-google-photos-for-ai-image-generation-heres-how-it-works-95467.htm