SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Weekly Discovery

We SHARE to inspire and ignite ideas!

19 Jan - 23 Jan 2026

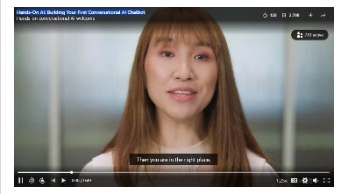
LinkedIn Learning Invest in Yourself

Did you know 1 cent doubled for 30 days = $5.368 Million

Similarly, your actions everyday can amount to much more!

Learn a new skill today with LinkedIn Learning and start investing in yourself!

Activate you free LinkedIn Learning Account and get started!



Featured Course

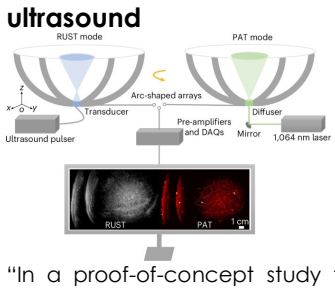
Getting Started with Python

1h 48m

Hands-On AI: Building Your First Conversational AI Chatbot

3D IMAGING

New 3D imaging system could address limitations of MRI, CT and ultrasound



"In a proof-of-concept study funded by the National Institutes of Health, researchers from the Keck School of Medicine of USC and the California Institute of Technology (Caltech) have shown that an innovative, noninvasive technique can be used to quickly collect 3D images of the human body, from head to foot. The technology combines ultrasound and photoacoustic imaging, which detects sound waves generated by light, to simultaneously collect images of both tissue and blood vessels. The findings, just published in the journal *Nature Biomedical Engineering*, have the potential to address current gaps in medical imaging.

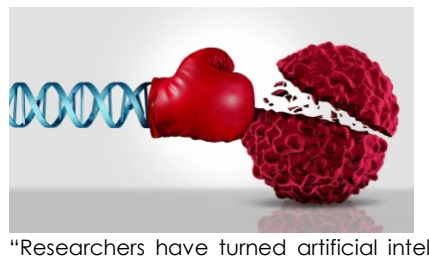
Imaging is a critical part of modern medicine, informing care across injury, infection, cancer, chronic disease and more. But today's gold standard techniques—ultrasound, X-ray, computed tomography (CT) and magnetic resonance imaging (MRI)—each have their limitations. These include cost and time required for each scan, as well as what the images can capture—how much of the body can be seen at once, how deep images can reach and how much detail they provide.

"You cannot understate the importance of medical imaging for clinical practice. Our team has identified key limitations of existing techniques and developed a novel approach to address them," said Charles Liu, MD, PhD, professor of clinical neurological surgery, urology and surgery at the Keck School of Medicine, director of the USC Neurorestoration Center and co-senior author of the new research."

Source: Eurekalert! (16 Jan 2026)

AI

AI maps the hidden forces shaping cancer survival worldwide

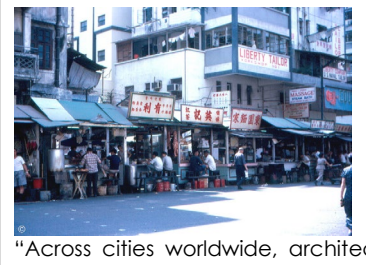


"Researchers have turned artificial intelligence into a powerful new lens for understanding why cancer survival rates differ so dramatically around the world. By analyzing cancer data and health system information from 185 countries, the AI model highlights which factors, such as access to radiotherapy, universal health coverage, and economic strength, are most closely linked to better survival in each nation."

Source: European Society for Medical Oncology (17 Jan 2026)

ARCHITECTURE

Urban Banquet at the Curb: Hong Kong's Third-Space Dining



"Across cities worldwide, architecture unfolds continuously at the scale of people and community—not only through new buildings, renovations, or monumental works. "Third spaces" are especially revealing. Consider the street-side culinary realm: how seating, serving, and lingering occupy the edge of the street often discloses a city's cultural codes and spatial habits. What forms of dining and inhabitation have emerged in response to local climate, regulation, and social custom—and how have they evolved over time?

In parts of Europe, for instance, *al fresco* in Italy and *en terrasse* in France name culturally specific ways of dining in public, drawing the meal into the urban field—attuned to weather, air, and the passive sociability of people-watching. Since COVID-19, New York City has similarly expanded outdoor dining, reflecting a community-driven desire to engage the streetscape while eating—an everyday, street-level "third place" within a dense metropolis.

Hong Kong offers a parallel yet distinct tradition: the *Dai Pai Dong*. Literally "big license plate stall," the term comes from the oversized government licenses historically issued—often to families of civil servants killed or injured during the Second World War—to legitimize small food businesses. From this lineage grew an improvised, street-front dining culture that has long stitched together everyday social life. Its persistence today—amid tightening regulations—invites a closer look at how it began, how it fosters togetherness, and how it continues to recalibrate itself within an increasingly managed city."

Source: Archdaily (18 Jan 2026)

ARCHITECTURE

A Day in the Bazaar: When Architecture Is Observed in Time

"Architecture is most often represented as a stable object: a building captured at a moment of visual clarity, isolated from surrounding contingencies. Plans, sections, and photographs promise legibility by suspending time. Yet many of the world's most enduring public environments resist this mode of representation altogether. They are not designed to be read instantaneously, nor do they reveal their logic through form alone. Their spatial intelligence emerges gradually, through repetition, occupation, and duration.

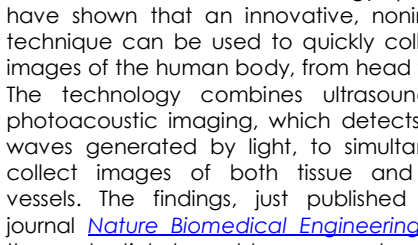
The bazaar belongs firmly within this category. It cannot be understood through a single drawing or a finished elevation. Its organization is not fixed but rehearsed. What sustains it is not purely architectural composition, but shared timing, collective memory, and long-standing patterns of use. Togetherness in the bazaar does not arise from formal design decisions; it is produced through repeated encounters, negotiated proximities, and social familiarity accumulated over time.

To observe a bazaar carefully is to recognize architecture operating as a temporal system. Markets do not function continuously in a uniform manner. They assemble, intensify, pause, transform, and dissolve, often within the span of a single day. From the midnight activity of Dadar Flower Market in Mumbai, to the early-morning precision of Tsukiji Outer Market in Tokyo, these environments are governed less by spatial enclosure than by temporal coordination."

Source: Archdaily (16 Jan 2026)

ARCHITECTURE

Pretty Plastic clads timber laboratory building in upcycled plastic tiles



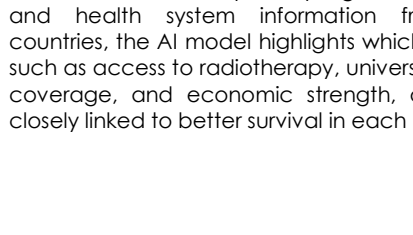
"Dutch manufacturer Pretty Plastic has created the facade for Plus Ultra III, the first timber laboratory building in the Netherlands, using tiles made from recycled post-consumer plastic waste.

Located on Wageningen University and Research Campus in central Netherlands, the building was designed by Dutch studio Proof of the Sum and developed by lab operator Kadans Science Partner."

Source: Dezeen (18 Jan 2026)

DESIGN

Ten gadgets that caught our attention at CES 2026



"An AI pocket pet, a vibrating ultrasonic knife and a "paper battery" were among the interesting and unusual products on display at the world's most influential technology fair, CES, in Las Vegas this week.

Running annually in the first days of the new year, the Consumer Electronics Show (CES) puts major brands such as Samsung and LG alongside small companies, start-ups and disruptors as they launch new products and test out fringe concepts.

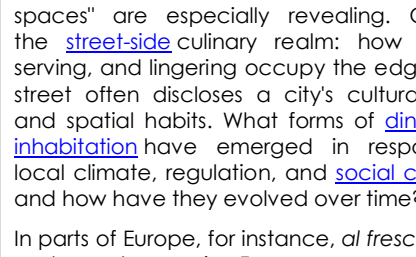
This year, perhaps unsurprisingly, artificial intelligence (AI) was everywhere, from smoke alarms to showers to shoe cabinets. However, this was more fatiguing than inspiring, with few AI products succeeding in grabbing our attention or making the case for their usefulness.

In the most crowded of crowded fields, these are the gadgets that stood out, whether for their novelty, potential or polish."

Source: Dezeen (9 Jan 2026)

ELECTRONICS

Engineers just created a "phonon laser" that could shrink your next smartphone

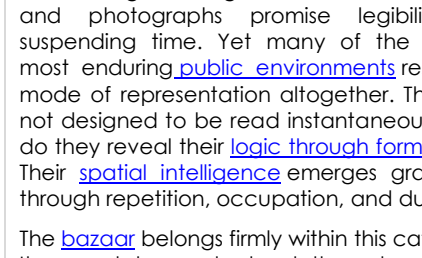


"Engineers have created a device that generates incredibly tiny, earthquake-like vibrations on a microchip—and it could transform future electronics. Using a new kind of "phonon laser," the team can produce ultra-fast surface waves that already play a hidden role in smartphones, GPS systems, and wireless tech. Unlike today's bulky setups, this single-chip device could deliver far higher performance using less power, opening the door to smaller, faster, and more efficient phones and wireless devices."

Source: Boulder (17 Jan 2025)

ROBOTICS

The breakthrough that makes robot faces feel less creepy



"Humans pay enormous attention to lips during conversation, and robots have struggled badly to keep up. A new robot developed at Columbia Engineering learned realistic lip movements by watching its own reflection and studying human videos online. This allowed it to speak and sing with synchronized facial motion, without being explicitly programmed. Researchers believe this breakthrough could help robots finally cross the uncanny valley."

Source: Columbia (16 Jan 2026)

ROBOTICS

The Top 6 Robotics Stories of 2025: Humanoids are hard, the end of iRobot, and robots for cows

ROBOTICS

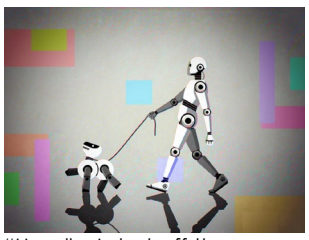
Humanoid robots step up their game: how useful are the latest droids?

SUSTAINABILITY

Scientists found the soil secret that doubles forest regrowth

SUSTAINABILITY

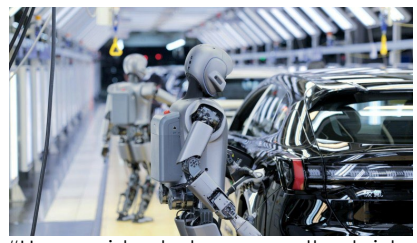
Microplastics are undermining the ocean's power to absorb carbon



"Usually, I start off these annual highlights posts by saying that it was the best year ever for robotics. But this year, I'm not so sure. At the end of 2024, it really seemed like AI and humanoid robots were poised to make a transformative amount of progress toward some sort of practicality. While it's certainly true that progress has been made, it's hard to rationalize what's actually happened in 2025 with the amount of money and hype that has suffused robotics over the course of the year. And for better or worse, humanoids are overshadowing everything else, raising questions about what will happen if the companies building them ultimately do not succeed.

We'll be going into 2026 with both optimism and skepticism, and we'll keep doing what we always do: talking to the experts, asking as many hard questions as we can, and making sure to share *all* the cool robots, even (or especially) the ones that you won't see anywhere else."

Source: IEEE Spectrum (24 Dec 2025)



"Humanoid robots are on the brink of being commercially useful, say Chinese and US firms that have announced plans to produce them at scale in the past three months.

Many researchers agree that there has been a step change in humanoid capability over the past five years, owing to cheaper parts as well as innovations such as improved battery power and artificial-intelligence algorithms, which allow for better perception and autonomy.

In November, Chinese firm UBTECH announced that it had made "the world's first mass delivery of humanoid robots". More than 1,000 of its Walker S2 model humanoids were sent to factories in 2025, says Yu Zheng, a roboticist and vice-dean of the UBTECH Research Institute in Shenzhen. The silver-white humanoid can walk autonomously and stably, as well as grab and move objects, but deployment "is still at an early stage", says Zheng.

Whether humanoids are saving companies time or money remains to be seen. Battery time is limited to hours and many activities still require human operators, who use the robots as puppets to complete tasks while gathering data for future iterations. Other researchers caution that technical and safety limitations mean that humanoids are far from ready for general-purpose use in homes and offices."

Source: Nature (16 Jan 2026)

"New research shows tropical forests can recover twice as fast after deforestation when their soils contain enough nitrogen. Scientists followed forest regrowth across Central America for decades and found that nitrogen plays a decisive role in how quickly trees return. Faster regrowth also means more carbon captured from the atmosphere. The study points to smarter reforestation strategies that work with nature rather than relying on fertilizers."

Source: University of Leeds (15 Jan 2026)

"Tiny plastic particles drifting through the oceans may be quietly weakening one of Earth's most powerful climate defenses. New research suggests microplastics are disrupting marine life that helps oceans absorb carbon dioxide, while also releasing greenhouse gases as they break down. By interfering with plankton, microbes, and natural carbon cycles, these pollutants reduce the ocean's ability to regulate global temperatures."

Source: University of Sharjah (17 Jan 2026)

To view past Weekly Alerts CLICK HERE

For more articles or in-depth research, contact us at library@sutd.edu.sg