



SECTION 1 – TECH BUZZ

ARTIFICIAL INTELLIGENCE



AI Impact On Warfare

Artificial intelligence (AI), akin to historical game-changers like gunpowder and the atomic bomb, holds the potential to reshape the landscape of warfare, transforming the nature of human conflicts into something unprecedented and potentially more lethal, according to analysts.

- In the lead-up to a summit between China's President Xi Jinping and US President Joe Biden, there were expectations that the leaders might reach an agreement to prohibit lethal autonomous weapons. However, no such accord emerged from the meeting. Despite the lack of a formal agreement, experts stress that the topic is of paramount importance, given its current impact on armed conflicts and the intensification of global competition for supremacy.
- Observers note that China is making substantial investments in AI, potentially altering the power dynamics not only in the Asia-Pacific region but also on a global scale. This development carries profound implications for the existing world order, traditionally dominated by the United States. A report led by former Google president Eric Schmidt emphasized concerns not just about losing dominance but about the risks associated with a world where the Chinese Communist Party takes the lead.
- Several potential applications of AI in warfare have been identified, with a focus on autonomous weapons being one of the prominent areas of concern. Weapons such as

robots, drones, and torpedoes can be converted into autonomous systems equipped with sophisticated sensors and AI algorithms, enabling computers to process information independently. Stuart Russell, a professor of computer science at the University of California, clarifies that autonomy doesn't imply weapons acting independently but rather having the capability to locate, select, and attack targets without direct human intervention.

- While many autonomous weapons are still in the conceptual or prototype stages, the conflict in Ukraine has provided a glimpse of their potential. Remotely piloted drones, increasingly autonomous, are being used by both sides in the conflict, pushing humans to seek refuge underground. Russell suggests that a significant consequence of autonomous weapons is that visibility on the battlefield could become a lethal vulnerability.
- Autonomous weapons offer advantages such as efficiency, cost-effectiveness, and the elimination of human emotions from battlefield situations, but they also raise ethical concerns. The ease and affordability of producing such weapons may lead to unchecked firepower, allowing aggressors to deploy vast numbers simultaneously for destructive purposes.
- Furthermore, the development of autonomous vehicles, including submarines, boats, and planes, adds a new dimension to reconnaissance, surveillance, and logistical support in remote or hazardous environments. Initiatives like the Pentagon's "Replicator" program aim to counterbalance China's manpower advantage by deploying thousands of easily replaceable autonomous systems across various domains.
- The integration of AI into military planning is also evident in the use of tactical software that synthesizes data collected by various sources. Companies like Anduril are developing autonomous vehicles optimized for defense missions, leveraging AI to process vast amounts of data for enhanced decision-making.
- In the realm of AI-powered military applications, the importance of data is underscored. Scale AI, with a contract to deploy a language model in a classified US Army network, emphasizes the significance of properly harnessing and organizing data to gain a decisive advantage in an AI-driven conflict. The deployment of AI chatbots, like "Donovan," is envisioned to enable commanders to plan and act swiftly, reducing decision-making timelines from weeks to minutes.

YouTube AI Content Rules

YouTube is implementing new regulations for content involving artificial intelligence (AI), including a mandate for creators to disclose the use of generative AI in crafting realistic videos.

- In a recent blog post detailing various updates related to AI policies, YouTube announced that creators failing to disclose the use of AI tools for creating "altered or synthetic" videos may face consequences, such as content removal or suspension from the platform's revenue-sharing program.
- Jennifer Flannery O'Connor and Emily Moxley, vice presidents for product management at YouTube, emphasized the transformative potential of generative AI in fostering creativity on the platform. However, they also underscored the need to strike a balance by safeguarding the YouTube community. These new restrictions build upon guidelines

introduced by YouTube's parent company, Google, in September, which mandated prominent warning labels for political ads on YouTube and other Google platforms utilizing AI.

- Scheduled to be implemented by the next year, the updated rules will provide YouTubers with additional options to indicate when they are uploading AI-generated videos that realistically portray fictitious events or depict individuals saying or doing things they never did. This disclosure becomes especially crucial for content discussing sensitive topics like elections, ongoing conflicts, public health crises, or involving public officials, as highlighted by O'Connor and Moxley.
- To alert viewers to manipulated videos, YouTube will introduce labels, including prominent markers on the video player for content covering sensitive subjects. The platform is also leveraging AI to identify and remove content that violates its rules, with the technology proving effective in swiftly detecting "novel forms of abuse."
- Furthermore, YouTube's privacy complaint process will be enhanced to facilitate requests for the removal of AI-generated videos simulating identifiable individuals, including replicating their face or voice. For YouTube music partners such as record labels or distributors, a mechanism will be established to request the takedown of AI-generated music content that imitates an artist's distinctive singing or rapping voice. These measures collectively aim to foster transparency, protect the integrity of content, and mitigate potential misuse of generative AI on the platform.

AI In Recruitment Rise

According to a recent report, an increasing number of employers are integrating Artificial Intelligence (AI) into their hiring processes for university graduates and school leavers. The Institute of Student Employers (ISE) conducted a survey revealing that 28% of employers have embraced AI as a vital component of their recruitment strategies. This marks a significant increase from the previous year when only 9% of employers reported utilizing AI in their hiring procedures.

- The survey, which involved 169 student employers and took place between July and August, identified online psychometric assessments as the most common application of AI in the hiring process. Additionally, AI is frequently employed for pre-screening candidates, providing updates on the recruitment process, and analyzing video interviews.
- The adoption of AI was attributed to its capacity to enhance the speed and efficiency of recruitment processes, with 83% of surveyed employers acknowledging these benefits. Furthermore, 64% noted that AI facilitated the analysis of large volumes of data, streamlining decision-making.
- Despite the advantages, a noteworthy 70% of employers expressed a preference for a more human-centric approach during the recruitment process, as per the survey. Georgia Greer, Head of Insights at the ISE, emphasized the transformative potential of AI in revolutionizing recruitment practices. She stated, "AI is creating opportunities for employers to do things differently in a more effective way. With the rise in job applications, the increased speed and efficiency is particularly attractive. It should improve the candidate experience too."

- Greer acknowledged the balancing act faced by recruiters who seek efficiency but grapple with ethical considerations surrounding the removal of human interaction from the process. She expressed optimism that as AI evolves and improves, confidence in its application will grow, addressing some of the ethical concerns.
- From a candidate perspective, the report suggested that tools like ChatGPT may be integrated, requiring candidates to respond to questions and recount their interview experiences. However, the current use of AI primarily focuses on assessing performance within the process, often without candidates being fully aware or able to prepare for its impact.

AI to bring Edith Piaf voice back to life

Warner Music, in collaboration with Edith Piaf's estate, has announced the development of a groundbreaking biopic that employs artificial intelligence to bring the iconic French star back to life in her own words.

- Piaf is widely regarded as France's greatest popular singer. She died in 1963. The film, titled "Edith," is currently in its final stages of development, though no specific release date has been confirmed, according to sources close to Warner Music France.
- This innovative project aims to utilize AI technology to recreate Edith Piaf's voice and image, offering a unique and revolutionary approach to storytelling. The unveiling of this endeavour coincides with the 60th anniversary of Piaf's passing, marking a significant milestone in preserving and celebrating her legacy.
- The inspiration for such a technological feat follows the recent success of the Beatles' AI-assisted release, "Now And Then," which achieved the band's first UK number one single in 54 years. This achievement was made possible by using AI to isolate John Lennon's vocals from a 1978 recording, demonstrating the potential of artificial intelligence in the realm of music production.
- For Edith Piaf's biopic, the AI system will analyze and process hundreds of voice and image clips, some dating back more than 80 years, to faithfully recreate her distinctive style. This meticulous approach aims to enhance the authenticity and emotional impact of Piaf's life story. While original recordings will be utilized for her greatest hits, the AI-generated narration will provide a unique perspective on hitherto unknown aspects of her life.
- The 90-minute film is set to traverse the cultural landscapes of Paris and New York from 1920 to 1960, providing a comprehensive narrative of Piaf's journey. The singer's voice will guide the audience through the various chapters of her life, shedding light on previously undisclosed facets. This ambitious project represents a marriage of cutting-edge technology and artistic expression, offering a fresh and immersive experience for fans and newcomers alike.

TECHNOLOGY

Huawei Accelerates Europe's Transition

Huawei commenced its annual flagship event, HUAWEI CONNECT 2023, in the vibrant city of

Paris. The gathering brought together thousands of guests, ranging from industry leaders and technical experts to global partners, all converging to delve into the possibilities of digital and intelligent technology in expediting the European Union's dual transition toward green and digital realms.

- In his inaugural address, Ken Hu, Huawei's Rotating Chairman, lauded Europe's remarkable strides in digital transformation, acknowledging the region's pivotal role in steering the world toward a more sustainable future. He emphasized Huawei's longstanding collaboration with European stakeholders over the past two decades, highlighting achievements in connecting people, empowering businesses, and nurturing Europe's digital ecosystem. Hu pledged continued support for digital transformation, local innovation, sustainability, and cybersecurity in Europe.
- Following Hu's remarks, Jim Lu, Huawei's Senior Vice President and President of the European Region, presented a keynote outlining four fundamental pillars aimed at fortifying Europe's dual transition. These pillars encompassed the connectivity of everything, intelligent cloud, the symbiosis of "bits manage watts," and an ethos of open cooperation. Lu expressed Huawei's readiness to collaborate with partners in delivering enhanced products and solutions to propel Europe's green and digital transformation forward.
- The imperative of connecting everything and rendering all decisions computable was underscored as a cornerstone of digital transformation. In industrial contexts, high-speed networks play a pivotal role in facilitating real-time data transmission, analysis, and computation. Huawei's resilient and intelligent network solutions support ultra-broadband connections across diverse industrial scenarios. Notably, the company contributed to Hungary's East-West Gate Intermodal Terminal, transforming it into Europe's first 5G-powered logistics terminal. This innovation resulted in heightened safety, improved working conditions, and a 20% increase in operational efficiency through fully automated and remote-controlled overhead cranes.
- Jim Lu also shed light on the significance of the cloud as the powerhouse behind algorithms and extensive computing resources driving intelligent industries. Huawei Cloud, expanding its presence with nodes in Ireland and Türkiye, positions itself as one of the world's fastest-growing major cloud service providers, committed to creating value for customers and partners in the European region.
- In the realm of sustainable energy, Lu emphasized Europe's global leadership in the transition to clean, green energy. Huawei has been at the forefront of integrating digital and power electronics technologies to boost clean energy production and digitize energy systems. The company's contributions have resulted in the generation of 228 billion kilowatt-hours of green electricity in Europe, reducing carbon emissions by 102 million tons and generating tens of thousands of high-value jobs.
- Lu concluded by reaffirming Europe's strategic importance to Huawei, pledging a customer-centric approach, value creation, and strengthened collaboration with European partners. He committed to nurturing local talent, expanding research and development investments in Europe, and actively participating in accelerating Europe's green and

digital transition. Lu's closing call for an open, fair, and inclusive innovation environment underscored Huawei's commitment to social development in the region.

GADGETS

Apple Vision Pro Insights

Apple is preparing for the imminent release of the Vision Pro early next year, and simultaneously, there's ongoing development on its successor, as per insights provided by MacRumors.

- Internally referred to as "Alaska" with the device identifier N109, the second-generation Apple Vision Pro is anticipated to retain much of the design language from its predecessor. However, alterations in speaker placement and rear straps are noteworthy.
- Prototypes of the upcoming Vision Pro lack the rounded areas housing speakers seen in the current model. The temples are described as flat and uniform, with one design variant featuring two clusters of tiny speaker holes.
- In terms of rear straps, the second-generation model adopts a design resembling the flat straps commonly found on laptop bags and backpacks. This departure from the current model's wide, braided headband leads MacRumors to speculate on potential cost-cutting measures employed by Apple for the next Vision Pro model.

Key hardware components for the second-generation Vision Pro include:

- Two micro-OLED displays
- One TrueDepth camera
- Four computer vision (CV) cameras
- Two RGB cameras
- Two low-light infrared illuminators
- Semi-automatic interpupillary distance (IPD) adjustment
- Compass
- Ambient light sensor
- Magnetometer
- Accelerometer
- Gyroscope
- External battery pack

The current progress indicates that the second-generation Apple Vision Pro is on track for the product validation testing (PVT) stage in 2025, suggesting a potential launch in late 2025 or early 2026.

- This timeline contradicts analyst Ming-Chi Kuo's projection from September, who anticipates a launch in the second half of 2027 at the earliest. Kuo believes Apple may have underestimated the time required for the Vision Pro to gain traction.
- Regardless of the precise launch timeline, it's evident that the second-generation Apple Vision Pro will come with a substantial price tag.

SECTION 2 – GLOBAL INFO

EUROPE

RUSSIA

For the first time, Russia has acknowledged that Ukrainian troops have established positions on the Moscow-controlled side of the Dnipro River, a significant waterway dividing the frontlines in southern Ukraine.

- This admission coincides with President Volodymyr Zelensky acknowledging a challenging day for Kyiv, marked by deadly Russian strikes in the eastern part of the country. Despite a sustained Ukrainian counteroffensive, the broader effort has yet to shift the course of the 21-month-long war.
- President Zelensky's mention of a difficult day suggests the severity of the situation, while the news of Ukrainian forces extending their presence across the Dnipro River holds strategic implications. If a breakthrough is sustained, it could signify a notable tactical success for Kyiv.
- According to Vladimir Saldo, the Moscow-installed head of Ukraine's Kherson region, "small groups" of Ukrainian soldiers are now positioned along the eastern bank of the Dnipro River. These troops, however, find themselves "blocked" in the village of Krynky and are reportedly enduring intense assaults from Russian artillery, rockets, and drones, resulting in significant casualties.
- It's noteworthy that Russian and Ukrainian forces have maintained entrenched positions on opposite sides of the Dnipro River since Moscow's withdrawal from the western part of the Kherson region in November of the previous year. The current development indicates a potential shift in the dynamics of the conflict, with Ukrainian forces making strides on a previously held Moscow-controlled front.

MIDDLE EAST

Israel-Hamas War

On Thursday, Israel initiated a renewed military operation targeting what it claimed to be a Hamas command center hidden beneath the Al-Shifa hospital in Gaza, the largest in the region.

- Major General Yaron Finkelman, the head of army operations in Gaza, stated, "Tonight we conducted a targeted operation into Shifa hospital. We continue to move forward." Both Israel and the United States, its primary ally, assert that Hamas has constructed tunnels beneath the Al-Shifa complex, making it a focal point in the ongoing conflict.
- Despite these allegations, the Palestinian militant group and hospital directors vehemently deny the charges. According to Gaza's Hamas-controlled health ministry, Israeli armoured bulldozers damaged parts of the hospital's southern entrance during the recent operation.
- Before Israeli troops entered the hospital complex, United Nations agencies estimated that approximately 2,300 patients, staff, and displaced civilians sought refuge at Al-Shifa.

The situation remains contentious, with conflicting narratives surrounding the military actions taken within the hospital premises.

ASIA

SOUTH KOREA

Over half a million students in South Korea participated in the pivotal national university entrance exam on Thursday, as authorities implemented extraordinary measures, including the suspension of flights, to minimize distractions.

- This nine-hour test, taken by 504,588 students this year, plays a crucial role in securing coveted spots in prestigious universities. It is also widely perceived as a determining factor for elevated social status, lucrative career opportunities, and even marriage prospects.
- The intense pressure placed on students within South Korea's highly competitive education system has been cited as a contributing factor to alarming rates of teenage depression and suicide, ranking among the highest globally. Lee Min-yup, a student at Kyungbock High School in central Seoul, expressed nervousness and trepidation, stating, "I'm nervous and trembling because what I've been studying for three years ends with this exam today."
- The significance of the examination is underscored by the stringent measures authorities are taking to ensure an undisturbed testing environment. In a bid to minimize noise disruptions during the English listening portion of the exam, the transportation ministry in Seoul implemented a nationwide ban on all aircraft takeoffs and landings, permitting exceptions only for emergency situations.

OCEANIA

AUSTRALIA

Australia's online safety regulatory body disclosed on Thursday that it is facing legal action initiated by X, the entity associated with Elon Musk, regarding a dispute over the platform's failure to articulate its strategies for combating child sexual abuse content.

- In the previous month, Julie Inman Grant, the eSafety commissioner, imposed a fine of Aus\$610,500 (US\$388,000) on the company, formerly known as Twitter, for neglecting to respond to inquiries sent in February regarding its efforts to address the issue on its platform.
 - Despite an extended mid-November deadline for payment, the social media giant failed to comply with the fine, as stated by the eSafety commission this week, which mentioned it was "considering further steps."
 - In response, X has taken the matter to Australia's federal court. A spokesperson for the eSafety commission stated, "X Corp. has lodged proceedings seeking judicial review of decisions of the eSafety Commissioner in this matter."
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SECTION 3 – MIXED BAG

HEALTH

COPD Prevention Strategies

Chronic Obstructive Pulmonary Disease (COPD) has emerged as one of the leading global causes of mortality, with a staggering 90% of deaths occurring in low and middle-income countries.

- While tobacco smoking is responsible for more than 70% of COPD cases in affluent nations, the proportion is still significant in low to middle-income countries, accounting for 30–40% of cases. Notably, household air pollution stands out as a major risk factor in these regions.
- Dr. Chetan Rao Vaddepally, a Consultant Interventional and Transplant Pulmonologist at Yashoda Hospitals Hyderabad, emphasizes that COPD is a preventable and treatable condition, echoing the age-old adage, "prevention is better than cure." Identifying and mitigating exposure to risk factors are not only crucial for preventing COPD but also integral to managing patients with the condition.
- Primary environmental factors contributing to COPD include tobacco smoking, exposure to toxic gases and particles from both indoor and outdoor air pollution. Genetic factors, such as Alpha 1 antitrypsin deficiency, can also predispose individuals to COPD.
- Cigarette smoking is the most prevalent and easily identifiable risk factor for COPD. Continuous efforts to encourage smoking cessation are imperative, particularly since approximately 40% of COPD patients persist in smoking, exacerbating the progression of the disease.
- Evidence suggests that a combination of counselling and pharmacotherapy is the most effective approach for smoking cessation. Nicotine dependence significantly influences the complexity of the quitting process, with indicators such as smoking shortly after waking, nighttime smoking, and a daily consumption of 20 cigarettes or more.
- Legislative smoking bans have proven effective in increasing cessation rates. While short-term adverse effects like weight gain and constipation may accompany smoking cessation, the long-term benefits are undeniable.
- Addressing indoor and outdoor air pollution requires concerted efforts in the form of public policies, local and national resources, and cultural changes. Mitigating exposure to biomass fuel smoke is critical to alleviating the COPD burden.
- Recommendations include effective ventilation, adoption of non-polluting cooking stoves, and similar interventions. Workplace interventions to minimize exposure to irritants like dust, fumes, and gases also contribute to reducing the COPD burden.
- In addition to these measures, vaccinations against influenza and pneumococcal infections are recommended for COPD patients to mitigate the risk of serious illness and death. Furthermore, incorporating physical activity into the routine is advisable for all COPD patients as part of a comprehensive management plan.

SCIENCE

Comets and Life Origins

The origin of the molecular precursors crucial for life on Earth has long puzzled scientists. A prevailing theory posits that comets might have played a pivotal role in delivering these building blocks. Recent research illuminates how comets could disseminate similar components to various planets across the galaxy through a process akin to "bouncing" from one celestial body to another.

- For a comet to effectively transport organic material, it needs to traverse at a relatively slow pace—around 15 kilometers per second, a comparatively sluggish speed for comets. Beyond this threshold, the molecules constituting the building blocks of life would disintegrate due to the combined effects of temperature and impact velocity.
- In a paper featured in the Proceedings of the Royal Society A, astronomers affiliated with the University of Cambridge propose that the most conducive setting for such comet-induced material delivery is within "peas in a pod" planetary systems.
- In these closely orbiting planetary systems, groups of planets coalesce in proximity. Here, there exists a potential for comets to be "passed" or "bounced" from one planet to another, gradually decelerating their speed. If the delivery of cometary material proves pivotal to the genesis of life, these planetary systems emerge as promising candidates in the quest for extraterrestrial life.
- Furthermore, comets are recognized to harbour an array of molecules deemed fundamental to life's building blocks. The Hayabusa2 mission conducted by the Japanese space agency collected samples from the asteroid Ryugu in 2019, revealing the presence of Uracil and Niacin. Uracil is a chemical precursor to RNA, while Niacin, also known as Vitamin B3 or nicotinic acid, plays a crucial role in metabolism.
- Importantly, it is essential to clarify that researchers do not assert the indispensability of comets in the origin of life on Earth or any other celestial body. Instead, their focus lies in examining how intricate molecules such as hydrogen cyanide (HCN) can be effectively delivered by comets.

SPACE

Webb Telescope Discovers Distant Galaxies

Utilizing the advanced capabilities of the James Webb Space Telescope, scientists have identified the second and fourth-most distant galaxies within the celestial expanse known as Pandora's cluster. Situated at an astonishing distance of nearly 33 billion light-years, these exceptionally remote galaxies provide invaluable insights into the formation processes of the earliest galaxies.

- In contrast to typical representations of galaxies at such extreme distances, which often manifest as mere red dots in images, these newly discovered galaxies exhibit distinctive characteristics. Described by researchers in a paper published in the Astrophysical Journal Letters, they appear larger and are likened to a "peanut and a fluffy ball."

- Given their staggering distance of 33 billion light-years, these galaxies offer a glimpse into the past, allowing us to observe them as they existed eons ago. According to estimates from researchers at Pennsylvania State University, the light detected by the Webb telescope originated from these galaxies approximately 13.4 billion light-years ago, a period when the universe was a mere 330 million years old. The galaxies' current distance results from the expansion of the universe over the intervening epochs.
- The James Webb Space Telescope captured deep field images of Pandora's cluster in 2022, revealing over 60,000 sources of light within its frame. The selection of this specific region was strategic, positioned behind numerous galaxies capable of inducing gravitational lensing—a phenomenon where the gravitational force of a foreground galaxy bends the surrounding space, distorting the light from celestial bodies situated behind it, akin to a magnifying glass effect.
- In addition to observational data, computational models were employed by researchers to unveil the intrinsic properties of these early galaxies. As anticipated, the two galaxies in question exhibited characteristics typical of their early stages, with low metal content and a rapid, active process of star formation marking their developmental trajectory.

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