

# ARTFORUM



## **BEST OF 2024: TECHNOLOGY**

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Sarah Meyohas is an artist who has consistently forged paths through emerging technologies, from pioneering blockchain-based artworks in 2015 and AI pieces in 2016 to more recent explorations using holography and plotters. She has invested in over fifty tech companies, merging her interests in art, technology, and finance.

### **1. AI WINS A NOBEL**

In October, the Nobel Prize in Chemistry went to three researchers for their AI-accelerated breakthroughs in the science of proteins, whose structures are so complex that each one previously required years of work for researchers to decode. The Royal Swedish Academy of Sciences honored Demis Hassabis and John M. Jumper, two computer scientists at Google's DeepMind artificial intelligence lab, for building AlphaFold, an algorithm that has correctly predicted—within minutes—the structure of almost all 200 million proteins currently known to occur in nature. The duo shared the award with David Baker, a biochemist at the University of Washington whose Rosetta AI model can design wholly novel proteins with new biological functions, an achievement that was until recently strictly a plot point in science fiction.

### **2. US GOVERNMENT MULLS BREAKUP OF GOOGLE**

The Department of Justice indicated this fall that it may ask a federal judge to force Google to sell off parts of its business following a landmark ruling that the tech behemoth had illegally used its Chrome browser, Android operating system, and other products to monopolize the online search market. Although the appeals process probably means a final resolution is still years away, the case—arguably the most consequential in American antitrust since the one that led to the breakup of AT&T in 1984—is poised to reshape tech industry regulations for decades to come, no matter what remedy the court decides is most appropriate to increase competition among search engine companies.

### **3. SPACEX REACHES REUSABLE-ROCKET MILESTONE**

Elon Musk's spaceflight company made history in October by successfully landing its Starship Super Heavy rocket booster in the same tower used to launch it. The achievement marks the next step in SpaceX's campaign to dramatically reduce the costs, waste, and lead time of space missions, bringing its founder closer to his goal of enabling humankind to go "multiplanetary" by colonizing the moon and Mars.

### **4. AI PIN HARDWARE FLOPS**

Humane and Rabbit, two US start-ups that raised hundreds and tens of millions of dollars, respectively, in venture funding (and set off an avalanche of hype), released voice-activated, screenless "pin" devices that aimed to replace smartphones as our new do-it-all gadgets. But the reviews of both devices were brutal, and the sales have arguably been even worse, confirming that the end of the smartphone era is still a long way off.

### **5. CHIP ACCESS HEIGHTENS GEOPOLITICAL TENSIONS**

China alarmed the US and other Western markets after it performed military exercises targeting Taiwan, the global leader in semiconductor production, after Taiwanese voters and politicians reaffirmed their commitment to national independence in May and October. As nations scramble to secure semiconductor supplies, these tiny chips have become the linchpin of global power—a resource so complex that a single advanced chip requires over 1,400 steps to manufacture, with Taiwan's TSMC producing 90 percent of the world's most advanced chips using machines that cost more than \$300 million each and processes so specialized that only a small group of experts worldwide fully understand certain critical steps.

### **6. OPENAI ABANDONS NONPROFIT STRUCTURE**

News broke in September that OpenAI—the maker of ChatGPT, Dall-E, and other leading generative AI applications—will restructure as a for-profit benefit corporation, with cofounder Sam Altman as its CEO. The move, which has been linked to months of boardroom drama and an exodus of engineering talent from the company, is seen as further evidence that Altman and his allies have decided to prioritize money over safety as they race to develop artificial general intelligence, a fully sentient digital mind. News of the restructuring also coincided with a new fundraising round that valued OpenAI at a staggering \$150 billion.

### **7. DECENTRALIZED PREDICTION MARKET GOES BIG**

Polymarket, an online platform where users place wagers in cryptocurrency on future events, had topped \$2 billion in betting volume on the outcome of the US presidential election by mid-October. More importantly, mainstream media outlets began making Donald Trump's and Kamala Harris's Polymarket odds a regular part of their election coverage months earlier, highlighting the growing influence of decentralized bettors on a wider audience's understanding of world events.

### **8. COPPER LODGE DISCOVERED WITH AI**

KoBold Metals, a California-based start-up that uses artificial intelligence to map Earth's crust in search of untapped seams of elements vital to technology production, uncovered a Zambian site this February that is estimated to contain one of the world's largest caches of copper. Although the find could be worth billions of dollars on its own, its significance lies in showing how AI can optimize natural-resource exploration—particularly for metals like copper that are crucial to renewable-energy hardware—even as traditional questions about resource extraction and community impact persist.

### **9. QUANTUM COMPUTING REACHES NEXT PHASE**

The dream of building practical quantum computers—machines millions of times more powerful than even traditional supercomputers—came closer to reality this summer after researchers found a way to stabilize the qubit, the basic building block of the technology. The new technique could soon enable engineers to link many of the notoriously

volatile qubits into networks capable of solving otherwise impossible problems in materials science, cryptography, and more.

## 10. HIP-HOP LEGEND RESURRECTED BY AI

The inescapable rap beef between superstars Drake and Kendrick Lamar took a turn into the uncanny valley this April when Drake released "Taylor Made Freestyle," a diss track that used AI voice filters to create verses purportedly delivered by two legends of Los Angeles hip-hop: Tupac Shakur, who was murdered in 1996, and the still living (but completely uninvolved) Snoop Dogg. Even though Drake quickly edited the song to remove the algorithmically generated portions after a cease-and-desist order from Shakur's estate, the incident highlighted both AI's disruptive potential in creative fields and the fierce cultural and legal battles that await its use.