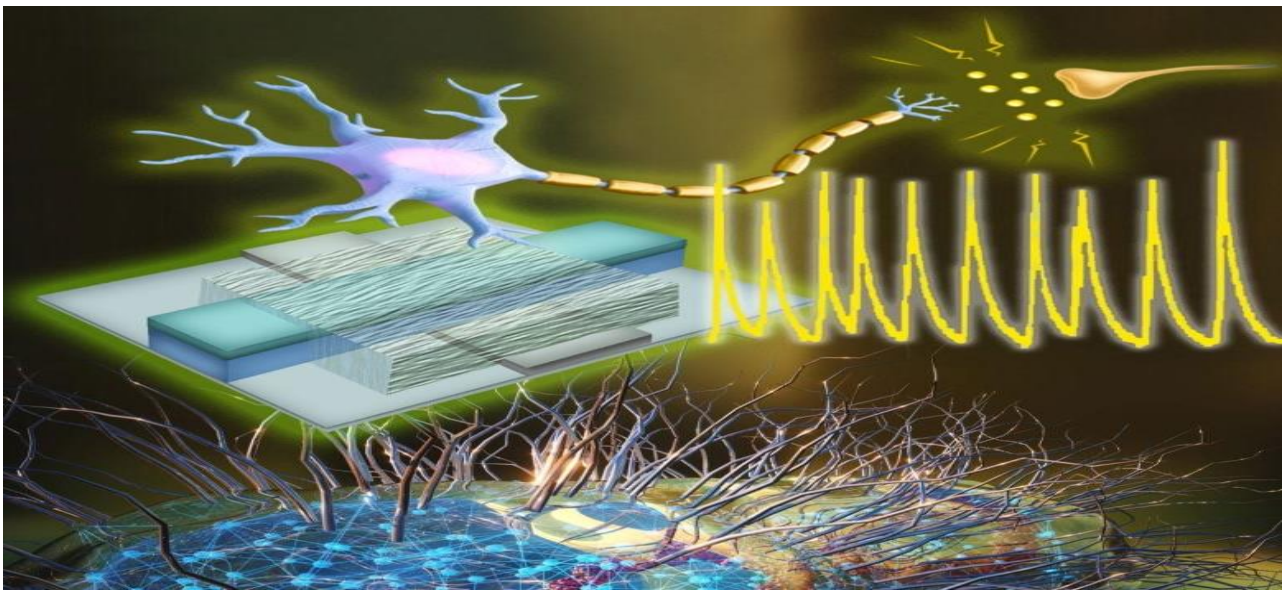


Department of Data Science  
**Weekly Data Science Bytes**

**Scientists Create Artificial Neuron That “Speaks” the Language of the Brain**



- Engineers at the University of Massachusetts Amherst have developed an artificial neuron that behaves strikingly like its natural counterpart. The breakthrough builds on earlier research in which the team created protein nanowires from electricity-producing bacteria. Their new discovery suggests the possibility of designing computers that are far more energy-efficient and capable of directly interacting with living cells.
- “Our brain processes an enormous amount of data,” says Shuai Fu, a graduate student in electrical and computer engineering at UMass Amherst and lead author of the study published in *Nature Communications*. “But its power usage is very, very low, especially compared to the amount of electricity it takes to run a Large Language Model, like ChatGPT.”

## **Trio win Nobel prize for revealing quantum physics in action**

### **'NEW SURPRISES' IN CENTURY-OLD FIELD OF QUANTUM MECHANICS**

- Quantum mechanical behaviours are well studied at the level of the incredibly small - atoms and sub-atomic particles - but are often seen as bizarre and unintuitive compared with classical physics and its far larger scale.
- The Nobel winners carried out experiments in the mid-1980s with an electronic circuit built of superconductors and demonstrated that quantum mechanics could also influence everyday objects under certain conditions.
- "It is wonderful to be able to celebrate the way that century-old quantum mechanics continually offers new surprises. It is also enormously useful, as quantum mechanics is the foundation of all digital technology," Olle Eriksson, chair of the Nobel Committee for Physics, said.

## **2025 Nobel Prize**

**"Mary Brunkow, Fred Ramsdell, and Shimon Sakaguchi win the 2025 Nobel Prize in Medicine for their groundbreaking discoveries on peripheral immune tolerance."**



**Mary  
Brunkow**



**Fred  
Ramsdell**



**Shimon  
Sakaguchi**



### **Breakthrough Blood Test Detects Head and Neck Cancer up to 10 Years Before Symptoms**



- Human papillomavirus (HPV) is responsible for about 70% of head and neck cancers in the United States, making it the most common type of cancer linked to the virus. Rates of these cancers continue to rise each year. Unlike HPV-related cervical cancers, which have established screening options, there is currently no test to detect HPV-associated head and neck cancers.
- As a result, most cases are diagnosed only after tumors have already expanded to billions of cells, causing symptoms and often spreading to nearby lymph nodes. Developing screening tools that can identify these cancers much earlier would allow patients to begin treatment sooner and improve outcomes.

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**Musk's xAI nears \$20 billion capital raise tied to Nvidia chips, Bloomberg News reports**



- Elon Musk's AI startup xAI is raising more financing than initially planned, including an equity investment from Nvidia ([NVDA.O](#)), [opens new tab](#), to bring its ongoing funding round to \$20 billion, Bloomberg News reported on Tuesday, citing people with knowledge of the matter.
- Nvidia is investing as much as \$2 billion in the equity portion of the deal, Bloomberg reported, adding that the financing, which includes equity and debt, will be tied to the Nvidia graphics processing units that xAI plans to use in its data center Colossus 2.

**Minister Dr. Jitendra Singh Launches Curtain Raiser Of Emerging Science, Technology & Innovation Conclave (ESTIC-2025).**

- Speaking at the event, Dr. Jitendra Singh complimented the office of the Principal Scientific Adviser and the scientific ministries for conceptualizing ESTIC as India's first integrated science, technology and innovation platform. He said that in the past eleven years, India's journey from being the world's 11th largest economy to the 4th has been powered by a decisive technological and innovation-driven push, supported by consistent political vision and leadership under Prime Minister Shri Narendra Modi.
- Dr. Jitendra Singh further highlighted that conclave endeavours to place special focus on emerging & frontier technologies – semiconductors, AI, quantum computing, biotech, space, and clean energy, areas essential to our strategic autonomy and future resilience as eleven identified thematic areas.



**After Arattai, Zoho's Google Chrome killer tops App Store charts.  
Here's what makes Ulaa browser special**



## **What is Ulaa browser?**

- Ulaa browser takes the competition directly to [Google Chrome](#) and Apple's Safari amid an array of other products. The browser is also available on all the popular platforms like Android, iOS, Windows, Mac, and Linux, with a particular focus on privacy
- While Ulaa is built on Chromium, just like Google Chrome, the new browser does not collect, store, or sell user data. In contrast, while Google does not sell user data to advertisers, it does collect data to personalize the ads shown to users.
- “Ulaa provides state-of-the-art features that ensure your personal information is kept confidential and your online footprint remains hidden from the advertisers' prying eyes,” Zoho says in a blog post.

**Meta announces first Ray-Ban smart glasses with in-built augmented reality display**



- Meta has announced three new pairs of AI smart glasses, including the first Ray-Bans with a built-in screen for augmented reality.
- The Meta Ray-Ban Display will be the first smart glasses with a heads-up display from a mainstream brand since the [ill-fated Google Glass](#). They use a classic Wayfarer-like styling to avoid looking too obviously like wearable technology, while still having a camera, speakers and microphone.
- A small, bright and crisp colour display is projected on to the inside of the right lens, which appears to float just below the wearer's eye line, and can show anything from text and images to live video calls. The display appears when interacting with the glasses, but isn't visible from the outside. An LED alerts others when the camera is active.

## **Google previews an AI model that can use the web like a human**

- Google has showcased a new version of its Gemini AI model — Gemini 2.5 Computer Use — designed to navigate and interact with the web through a browser. Unlike traditional AI assistants that rely on APIs, this model can directly use websites built for humans, performing tasks such as filling out forms, clicking buttons, or dragging elements — just as a person would.
- It's being tested inside Google AI Studio, Vertex AI, and on Browserbase, where demo videos show the model performing tasks like playing the game 2048 or browsing Hacker News for trending topics

