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Event Timing



30 AUG
2024

7 PM ONWARDS

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LIMITED SEATS ONLY



MD SPEAKS

Anoop Pai Dhungat
Chairman & Managing Director

Dear Readers,

Just a few days ago, tech disruptions across the world hit airlines, banks, businesses, schools and government, along with some health and emergency services. This was due to millions of Windows systems showing the infamous blue screen of death. It emerged that a particularly popular cybersecurity vendor had released an update intended to enhance the functionality and security of its endpoint protection platform. Unfortunately, this update contained a bug that led to the systems crashing. The vendor's engineering and support teams were able to identify and develop a fix for the issue within 79 minutes. However, deploying this fix and recovering the disruption took days and caused losses of over five billion dollars. All this because of laxity in testing a product before mass release.

As systems become more interconnected and dependent on each other, even a minor bug has the potential to disrupt business all across the globe and cause irreparable damage to lives and livelihoods, it becomes even more important to go back to the basics of release management with multi-level testing and roll back procedures. The lures of agility, perceived urgency and pressure from stakeholders have resulted in some of these basics getting bypassed. This should serve as a lesson for all tech companies to stick to the basics and first principles - even more so in this hyper connected era that we are in.

At Galaxy, our professional services practitioners are trained in cyber resilience techniques that makes recovering from such outages less painful. Do get in touch to know how we can help.

Happy reading.





Scientists build robot that's controlled by a brain in a jar

There have been plenty of bizarre robots designed in the past, but this could well take the top spot. In a world first, this robot is more human than ever, kitted out with and controlled by a real-life brain.

Research teams from Tianjin University and Southern University of Science and Technology have controlled the tracking, grasping and obstacle avoidance of a robot via what is known as a 'mini-brain'.

This, of course, isn't a real brain pulled from a human body. Cultured in vitro, these brains are created for the purpose of research – and, apparently, for integration into robots.

To control the robot, the researchers used the organism to make a so-called 'brain-on-chip'. While the brain has some of the intelligent functions of a biological brain, it needs a bit of assistance.

The chip is added to the brain to allow the scientists to debug it, send signals to the outside world and thereby achieve specific functions, such as controlling the robot's grabbing ability.

"The brain-computer interface on a chip is a technology that uses an in vitro cultured 'brain' (such as brain organoids) coupled with an electrode chip to achieve information interaction with the outside world through encoding and decoding and stimulation-feedback," said Prof Ming Dong, vice president of Tianjin University.

Through the use of the chip, the brain can learn to control the robot, figure out the movements, avoid obstacles, track targets and learn how to move the arms.

Because the robot can't see like we do, the brain is interpreting the world through electrical signals provided to it by the chip. It could, in theory, train itself to fully navigate a simulated environment, but understanding the real world is more complicated.

This brain-on-chip was developed as an open-source project and has been given the name MetaBOC. Mini

brains are most often used for experimentation, but this isn't the first time they've found their way into a robot.

Back in 2018, researchers created a mini-brain from the DNA of fossilised bones. By using this technique they were able to create a brain from samples of a Neanderthal. These samples were, somewhat creepily, then put into a spider-like robot to control it.

The team behind this latest robot-brain interaction believes two key breakthroughs from this study help it stand out compared to previous research.

Firstly, they are using ball-shaped organoids. This means the cell culture has moved from two-dimensional to three-dimensional, providing a more complex neural network for the brain-on-chip to operate on.

To achieve this, the mini-brains are grown under low-intensity focused ultrasound stimulation. The team has stated that this gave them a better intelligent foundation to build on.

Secondly, the addition of artificial intelligence algorithms has helped realise the technology, offering the robot more abilities from the mini-brain.

While all of this may sound unbelievable, there is still a long way to go. For instance, the brain inside the robot's helmet is currently just a mock-up, with the actual brain tissue kept separate for testing purposes.



<https://tinyurl.com/yc7fjc7>



Innovative Intelligence: The Promise of Generative AI

Generative AI can learn from existing artifacts to generate new, realistic artifacts (at scale) that reflect the characteristics of the training data but don't repeat it. It can produce a variety of novel content, such as images, video, music, speech, text, software code and product designs.

Generative AI uses a number of techniques that continue to evolve. Foremost are AI foundation models, which are trained on a broad set of unlabeled data that can be used for different tasks, with additional fine-tuning. Complex math and enormous computing power are required to create these trained models, but they are, in essence, prediction algorithms.

Today, generative AI most commonly creates content in response to natural language requests — it doesn't require knowledge of or entering code — but the enterprise use cases are numerous and include innovations in drug and chip design and material science development.

What are the benefits and applications of generative AI?

Foundation models, including generative pretrained transformers (which drives ChatGPT), are among the AI architecture innovations that can be used to automate, augment humans or machines, and autonomously execute business and IT processes.

The benefits of generative AI include faster product development, enhanced customer experience and improved employee productivity, but the specifics depend on the use case. End users should be realistic about the value they are looking to achieve, especially when using a service as is, which has major limitations. Generative AI creates artifacts that can be inaccurate or biased, making human validation essential and potentially limiting the time it saves workers. Gartner recommends connecting use cases to KPIs to ensure that any project either improves operational efficiency or creates net new revenue or better experiences.

In a recent Gartner webinar poll of more than 2,500 executives, 38% indicated that customer experience and retention is the primary purpose of their generative AI investments. This was followed by revenue growth (26%), cost optimization (17%) and business continuity (7%).

What are the risks of generative AI?

The risks associated with generative AI are significant and rapidly evolving. A wide array of threat actors have already used the technology to create "deep fakes" or copies of products, and generate artifacts to support increasingly complex scams.

ChatGPT and other tools like it are trained on large amounts of publicly available data. They are not designed to be compliant with General Data Protection Regulation (GDPR) and other copyright laws, so it's imperative to pay close attention to your enterprises' uses of the platforms.

Oversight risks to monitor include:

- ▶ Lack of transparency. Generative AI and ChatGPT models are unpredictable, and not even the companies behind them always understand everything about how they work.
- ▶ Accuracy. Generative AI systems sometimes produce inaccurate and fabricated answers. Assess all outputs for accuracy, appropriateness and actual usefulness before relying on or publicly distributing information.
- ▶ Bias. You need policies or controls in place to detect biased outputs and deal with them in a manner consistent with company policy and any relevant legal requirements.
- ▶ Intellectual property (IP) and copyright. There are currently no verifiable data governance and protection assurances regarding confidential enterprise information. Users should assume that any data or queries they enter into the ChatGPT and its competitors will become public information, and we advise enterprises to put in place controls to avoid inadvertently exposing IP.
- ▶ Cybersecurity and fraud. Enterprises must prepare for malicious actors' use of generative AI systems for cyber and fraud attacks, such as those that use deep fakes for social engineering of personnel, and ensure mitigating controls are put in place. Confer with your cyber-insurance provider to verify the degree to which your existing policy covers AI-related breaches.
- ▶ Sustainability. Generative AI uses significant amounts of electricity. Choose vendors that reduce power consumption and leverage high-quality renewable energy to mitigate the impact on your sustainability goals.



Technology Focus

What are some practical uses of generative AI today?

The field of generative AI will progress rapidly in both scientific discovery and technology commercialization, but use cases are emerging quickly in creative content, content improvement, synthetic data, generative engineering and generative design.

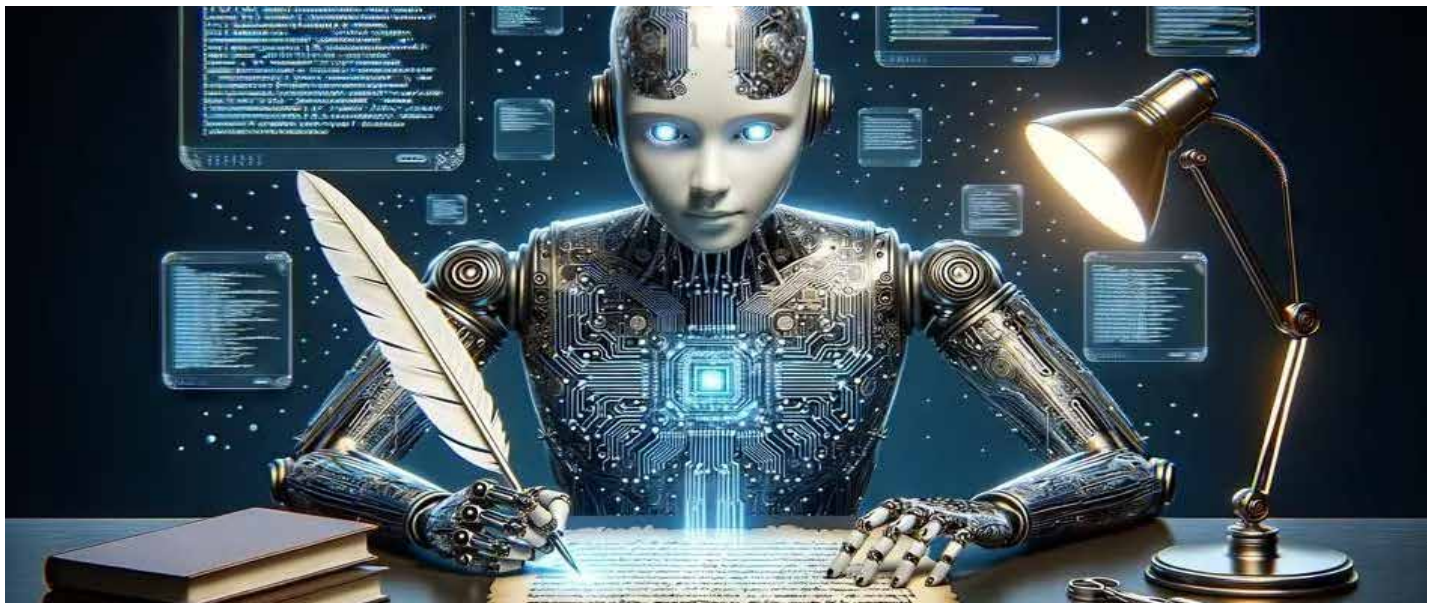
In-use, high-level practical applications today include the following.

- ▶ Written content augmentation and creation: Producing a “draft” output of text in a desired style and length
- ▶ Question answering and discovery: Enabling users to locate answers to input, based on data and prompt information
- ▶ Tone: Text manipulation, to soften language or professionalize text
- ▶ Summarization: Offering shortened versions of conversations, articles, emails and webpages
- ▶ Simplification: Breaking down titles, creating outlines and extracting key content

- ▶ Classification of content for specific use cases: Sorting by sentiment, topic, etc.
- ▶ Chatbot performance improvement: Bettering “sentity” extraction, whole-conversation sentiment classification and generation of journey flows from general descriptions
- ▶ Software coding: Code generation, translation, explanation and verification

merging use cases with long-term impacts include:

- ▶ Creating medical images that show the future development of a disease
- ▶ Synthetic data helping augment scarce data, mitigate bias, preserve data privacy and simulate future scenarios
- ▶ Applications proactively suggesting additional actions to users and providing them with information
- ▶ Legacy code modernization



Galaxy plays an important role by working with multiple OEMs across hardware & software, AI solution provider, partners and stitch overall solutions for end customers across industries. Talk to our experts, email us at marketing@goapl.com

<https://tinyurl.com/5e8x6cmn>

Building Resilient IT Architectures

On July 19, 2024, CrowdStrike experienced a major incident due to a faulty update to its security software. This update, which was part of their Falcon platform's routine sensor configuration updates, caused a significant logic error. This error led to widespread system crashes and "blue screen of death" (BSOD) events on Windows devices using the Falcon sensor version 7.11 and above.

CrowdStrike quickly reverted the problematic update, and the issue was not related to any cyberattack. The remediation process involved booting affected systems into safe mode or using the Windows Recovery Environment to delete specific files. The incident highlighted the critical dependency many organizations have on cybersecurity updates and the potential risks associated with them.

To create more resilient and decentralized IT infrastructures and prevent large-scale outages like the recent CrowdStrike incident, organizations can adopt several strategies:

► Diversified Software and Systems

- Use a mix of operating systems and software: Relying on a single vendor or system can create a single point of failure. Incorporating a variety of operating systems and applications reduces the risk of widespread impact from a single flaw.
- Implement multi-vendor strategies: Engage multiple cybersecurity vendors to avoid dependency on a single provider. This diversification can help mitigate risks if one vendor's solution fails.

► Redundancy and Backup Systems

- Redundant systems and failover solutions: Ensure critical systems have redundant backups that can take over in the event of a failure. This includes mirrored servers, backup power supplies, and alternative network pathways.
- Regular and automated backups: Maintain up-to-date backups of all critical data and systems, and ensure these backups are regularly tested for integrity and reliability.

► Decentralized and Distributed Architectures

- Adopt distributed computing models: Use cloud-based and decentralized architectures to

distribute workloads across multiple data centers and geographic locations. This reduces the risk of a single point of failure affecting the entire system.

- Federated systems: Implement federated systems that allow different components to operate independently. This can prevent a failure in one part of the system from cascading to other parts.

► Rigorous Testing and Patch Management

- Thorough testing of updates: Prioritize rigorous testing of all updates and patches in a controlled environment before rolling them out to the entire network. Use sandbox environments to identify potential issues.
- Staggered rollouts: Deploy updates in a phased manner, starting with a small group of users before a full-scale rollout. This approach allows for early detection and resolution of issues before they impact the entire organization.

► Enhanced Monitoring and Incident Response

- Continuous monitoring: Implement robust monitoring tools to detect and respond to anomalies in real-time. This allows for quicker identification and mitigation of potential issues.
- Incident response planning: Develop and regularly update incident response plans to handle cybersecurity incidents efficiently. Conduct regular drills to ensure that the response team is prepared for various scenarios.

► Collaboration and Information Sharing

- Industry collaboration: Participate in industry groups and information-sharing organizations to stay informed about emerging threats and best practices. Collaboration can enhance the collective security posture of the industry.
- Government and regulatory engagement: Work with government agencies and regulators to establish standards and guidelines for cybersecurity. Compliance with these standards can help improve overall security and resilience.

Galaxy as an IT Solutions Provider strives to maintain and help the end customers to enhance their security compliance. To talk to our experts, email us at marketing@goapl.com



India becomes largest market for Meta AI usage

India has become the largest market for Meta AI usage, according to a senior Meta official. During Meta's Q2 earnings call, Chief Financial Officer Susan Li said the company is seeing good momentum with its longer-term engagement priorities, including generative AI and Threads (Meta's rival to Twitter, now X).

"People have used Meta AI for billions of queries since we first introduced it. We are seeing particularly promising signs on WhatsApp in terms of retention and engagement, which has coincided with India becoming our largest market for Meta AI usage," Li said.

Li added that people can use Meta AI in over 20 countries and eight languages.

<https://tinyurl.com/bdh8vc32>

Nxtra by Airtel becomes first India data center company to join RE100 initiative

Nxtra by Airtel, the data centre company has joined the RE100 initiative. For those unaware, RE100 is a global initiative led by Climate Group and is committed to source 100% renewable electricity.

Nxtra has become the only data centre organisation in India to have pledged to RE100. The company claims that it has significantly increased its renewable energy use and has contracted 422,000 MWh renewable energy till date. In FY 2023-24, Nxtra saved ~ 156,595 tCO2e emissions by sourcing renewable energy through Power Purchase Agreements (PPAs) and Captive Solar Rooftop Plants.



Ashish Arora, CEO — Nxtra by Airtel, said, "We are an environmentally responsible brand and have been increasingly adopting clean energy alternatives. We are on a healthy trajectory towards achieving our netzero goals of 2031 and are happy to become a part of the RE100 initiative with a commitment to 100% renewable electricity."

The company has also implemented a multifaceted approach that combines technological innovation, operational excellence and comprehensive interventions to ensure operational efficiency and environmental sustainability. It has adopted multiple interventions to reduce absolute scope 1 and 2 greenhouse gas (GHG) emissions across its operations and become net-zero by FY2031.

<https://tinyurl.com/8jv4s2uw>

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