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In This Issue.......

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Microsoft and SK Telecom join forces on AI, 5G, and cloud technologies

Microsoft and SK Telecom have signed an MoU (Memorandum of Understanding) to collaborate on AI, 5G, and cloud technologies.Under the MoU, the companies will share knowledge to further each other's ambitions in areas which make use of such technologies like the IoT.

Jason Zander, Executive Vice President of Azure at Microsoft, said:

> ***"Through the strategic partnership with SK Telecom, we will play a key role in shaping the future and accelerating the digital transformation of the telecommunications industry with our world-class network and technology.***
>
> ***This will be a deep and multifaceted partnership that strengthens the power of cloud and AI to deliver innovative new services to customers."***

Microsoft recently announced updates to its Cortana digital assistant during the company's annual BUILD developer conference. Earlier this year, CEO Satya Nadella admitted Cortana no longer competes directly with Google Assistant or Alexa.Rather than give up on Cortana, Microsoft is changing strategy and focusing on integrating the assistant in areas where it adds value – especially for workers.

Speaking with The Verge, Cortana chief Andrew Shuman recently said:

> ***"What we've been really working on over the last year is how we can better embed Cortana across Microsoft 365 experiences and really delight users, especially those users who really are on board, so we have to understand their calendar, their tasks, their work documents, their interfacing with their close collaborators."***

SK Telecom says it will combine the capabilities of its own AI platform NUGU with Cortana 'to offer new AI-powered products and services, including consumer solutions such as smart speakers and other offerings for the enterprise.'

Although the companies are yet to expand on their plans, the partners also mention an intention to create a 'new level' of experience for customers in the field of media and entertainment.

Park Jung-ho, President and CEO of SK Telecom, commented:

> ***"SK Telecom is pleased to join hands with Microsoft as collaboration with global leading companies like Microsoft is essential to gain leadership in the 5G market, where competition is already fierce.***
>
> ***SK Telecom will work closely with Microsoft to create unprecedented value by combining the strengths and capabilities of the two companies."***

This isn't the first time Microsoft and SK Telecom have collaborated this year. Back in February, the companies announced a strategic partnership to launch Microsoft Azure with Metatron – SK Telecom's self-developed big data solution. The companies are working together to improve the service in addition to joint marketing.

Filament's blockchain fills in the data gaps for Nevada university's autonomous vehicles

The potential with integrating blockchain and Internet of Things (IoT) technologies continues to grow pace – and the University of Nevada, Reno is the next to take that step by combining Filament's blockchain with its autonomous vehicle.

Blockchain startup Filament is working with the University of Nevada and Reno's Intelligent Mobility initiative in order to develop a latest standard based on blockchain IoT tech for attested data integrity between self-driving cars and road infrastructure.

The smart city mobility project is being conducted via the University's Nevada Center for Applied Research, and is designed to enhance communication as well as safety between self-driving vehicles and surrounding infrastructure with LIDAR and dedicated short-range communications devices mounted at intersections.

The University of Nevada will soon start simulated testing of Filament's Blocklet Technology along with plans to integrate the technology soon into both self-driving vehicle and the sensor infrastructure placed along defined routes to deliver a dependable record of events that enables attested data exchange through blockchain transactions.

“Working with Filament as part of Intelligent Mobility will help us to create and validate secured data generated from the many connected LIDAR devices, including those in autonomous vehicles, that will soon be a common feature in our cities and towns,” said Carlos Cardillo, director of the Nevada Center for Applied Research.

According to a report from MarketsAndMarkets earlier this month, there will be a massive growth in the blockchain IoT market, which is forecasted to go past £1.54b by 2024. In 2019, the report expects the market to reach £86.36m. By 2024, that is expected to increase to £2.31b. The report titled, Blockchain IoT Market by Offering, Application, End User, and Geography – Global Forecast to 2024, predicts growth at a CAGR of 92.92%.

Turning IoT devices into supercomputers? Sisense has a Hunch for more effective BI

Sisense, a business analytics software firm, has launched its patent-pending Sisense Hunch Data Cognition Engine which aims to turn sensors, phones, and wearable devices into supercomputers.

Sisense Hunch represents a new class of big data analytics, data cognition engines that learns vast amount of datasets and is able to produce microsecond analytical responses to queries that are 99% precise, with a small fraction of the cost and storage footprint.

Amir Orad, chief executive officer of Sisense, said: “Sisense Hunch achieves the impossible, taking large datasets that require massive amounts of computing power and storage, and making them digestible with an edge IoT device. Once a Sisense Hunch neural network learns data, it doesn't need any ongoing access to the complete underlying data set, allowing it to achieve lightning-fast, analytical query responses, with minimal costs, while maintaining complete data privacy. That's what makes it possible to move 'supercomputing' to the 'edge,' turning IoT devices from data collectors into smart data analysers.”

At present, the solution is being tested with many of the company's clients.

This is by no means the only innovation taking place in the IoT space right now. UK-based Crypto Quantique has launched what is being claimed as the world's most advanced security product for IoT devices – with a quantum edge. The technology behind this solution includes world's first quantum driven secure chip (QDSC) on silicon which, when combined with cryptographic APIs, provides highly scalable, easy-to-implement and seamless end-to-end security for any connected device. The solution supports all kinds of security devices on the market today.Scientists use smartphones to improve dismal rating of nation's civil infrastructure

In the United States, aging civil infrastructure systems are deteriorating on a massive scale. A recent report by the American Society of Civil Engineers gave these systems a D+ rating nationwide on an A -- F scale. Now scientists at the University of Missouri have developed smartphone-based technologies that can monitor civil infrastructure systems such as crumbing roads and aging bridges.

Based on estimations, researchers say the failure of civil infrastructure systems, such as roads and bridges, could cause a 1 percent reduction in the U.S. GDP. In 2017, that number was $200 billion. The challenges of the aging civil infrastructure systems suggest the need for developing innovative monitoring solutions. By using various sensors on smartphones such as a gyroscope, an accelerometer to measure speed, and camera, or tiny external sensors such as an infrared sensor, scientists can determine the specific makeup and deterioration of a road's surface in real-time. However, scientists won't be collecting all of the data. Once the sensor is plugged into a smartphone, any person will be able to effortlessly transmit the data wirelessly to a database while riding on a road. Researchers hope the large amount of data collected by crowdsourcing this technology will allow for better informed decisions about the health of roads and bridges.

"Many of the existing methods to monitor our civil infrastructure systems have technical issues and are not user-centered," said Amir Alavi, an assistant professor of civil and environmental engineering in the MU College of Engineering, with a courtesy appointment in the Department of Biomedical, Biological and Chemical Engineering. "People are looking for smart, cost effective, scalable and user-centered approaches. With current advances in technology, people can help monitor or detect problems using their own devices, and smartphone technology allows us to do that with civil infrastructure."

Alavi partnered with Bill Buttlar, the Glen Barton Chair of Flexible Pavement Technology, to develop this innovative solution to monitor roads and bridges.

"Assessing roads, bridges and airfields with affordable sensors, such as those found in smartphones, really works," Buttlar said. "With a smartphone, we can stitch together many inexpensive measurements to accurately assess things like the roughness or deterioration of a road surface. In a recent project sponsored by the Missouri Department of Transportation, we also showed that it can accurately assess the condition of airport runways and taxiways."

Physicists at the University of Zurich have developed an amazingly simple device that allows heat to flow temporarily from a cold to a warm object without an external power supply. Intriguingly, the process initially appears to contradict the fundamental laws of physics.

If you put a teapot of boiling water on the kitchen table, it will gradually cool down. However, its temperature is not expected to fall below that of the table. It is precisely this everyday experience that illustrates one of the fundamental laws of physics -- the second law of thermodynamics -- which states that the entropy of a closed natural system must increase over time. Or, more simply put: Heat can flow by itself only from a warmer to a colder object, and not the other way round.

Cooling below room temperature

The results of a recent experiment carried out by the research group of Prof. Andreas Schilling in the Department of Physics at the University of Zurich (UZH) appear at first sight to challenge the second law of thermodynamics. The researchers managed to cool a nine-gram piece of copper from over 100°C to significantly below room temperature without an external power supply. "Theoretically, this experimental device could turn boiling water to ice, without using any energy," says Schilling.

Creating oscillating heat currents

To achieve this, the researchers used a Peltier element, a component commonly used, for example, to cool minibars in hotel rooms. These elements can transform electric currents into temperature differences. The researchers had already used this type of element in previous experiments, in connection with an electric inductor, to create an oscillating heat current in which the flow of heat between two bodies perpetually changed direction. In this scenario, heat also temporarily flows from a colder to a warmer object so that the colder object is cooled down further. This kind of "thermal oscillating circuit" in effect contains a "thermal inductor." It functions in the same way as an electrical oscillating circuit, in which the voltage oscillates with a constantly changing sign.

Laws of physics remain intact

Until now, Schilling's team had only operated these thermal oscillating circuits using an energy source. The researchers have now shown for the first time that this kind of thermal oscillating circuit can also be operated "passively," i.e. with no external power supply. Thermal oscillations still occurred and, after a while, heat flowed directly from the colder copper to a warmer heat bath with a temperature of 22°C, without being temporarily transformed into another form of energy. Despite this, the authors were also able to show that the process does not actually contradict any laws of physics. To prove it, they considered the change in entropy of the whole system and showed that it increased with time -- fully in accordance with the second law of thermodynamics.

Topaz Energy and Marine team up with Baker Hughes for IoT-enabled vessel maintenance

Dubai-based marine logistics firm Topaz Energy and Marine has placed an order and signed a long-term contract with GE-owned oil company Baker Hughes to deploy the latter's lubricant condition monitoring system, VitalyX, in order to enhance the maintenance and field time of every vessel in Topaz's fleet.

The VitalyX system, which is a mix of IoT and latest sensors with condition monitoring software, generates real-time data that will provide Topaz with crucial tech-related information on the vessels' condition, which will help the company to achieve optimal performance. The sensors will be mainly deployed on important on-board equipment, such as the engine, thrusters and genset, which will monitor the lube oil for contaminants like metal particles and soot.

The VitalyX system is likely to be deployed on Topaz's entire module carrying vessel (MCV) in late 2019.

In February, the Port of Rotterdam announced the first application of an IoT-based hydro/meteo system into its operations. The system uses an extensive network of sensors to provide accurate and up-to-date water (hydro) and weather (meteo) data particularly for the planning and management of shipping. The generic building blocks that have now been implemented offer the port a safe and reliable basis for rapid innovation, with access to the latest technologies, including edge computing, real-time analytics, AI, hyper-precise data and blockchain.

A month later, the Marseille-Fos Port in France announced participation in a blockchain-based project that is supported by the Interministerial Delegation for the development of the port and logistics axis Méditerranée-Rhône-Saône (MeRS). The project, which involves transport of freight on the Mediterranean-Rhône-Saône axis transport corridor, aims to test security of the digital transport chain to improve fluidity, safety, and competitiveness of the chain logistics and intermodal freight forwarding on the Rhône / Saône axis. This will allow data sharing between interested parties without a superstructure.

Google Spotted Testing Automatic Car Crash Detection in Android

Google is testing automatic car crash detection for Pixel phones on Android Q operating system (OS), XDA Developers reports.

Android Q Beta 3 features a new Google app called 'Safety Hub' with the package name com.google.android.apps.safetyhub, the report adds. Strings in the app's code hint at an automatic car crash detection feature.

"The functionality from this app is Pixel-exclusive, as is made evident with the Manifest declaration," the report said late on Monday. Though it hints at automatic detection of a car crash, it is not clear how exactly that would be achieved.

The tech giant could resort to using data from the accelerometer and the microphone, but even that may not be fool-proof in its detection, the report added. The company would also have to ensure that false positives are kept to a minimum.

"The strings also do not reveal what happens once a crash is detected — we're guessing the app could alert first responders or the listed emergency contacts on the phone. Hopefully, future Q Betas reveal more information on how this app would work and what it would do," the report added.

69% Indian firms face serious cyber attack risk: Study

Around 83 % of organisations in the Asia Pacific region do not think about cyber security while embarking on digital transformation projects, according to the study.

While 69 per cent Indian and 63 per cent Australian companies are most at risk of cyber attack, 35 per cent of organisations in the region suffered at least one cyber security incident in the last 12 months, says a sector study.

According to a recent study by leading IT analyst firm Frost &Sullivan, findings of which were released on May 9 here by Forcepoint, a leader in global cyber security, around 83 % of organisations in the Asia Pacific region do not think about cyber security while embarking on digital transformation projects.

Although a majority of the organisations (72 %) conduct regular breach assessment to protect themselves against cyber attacks, still 55 % of them continue to be at risk.

“It's clear from this study that many APAC organisations are on the back foot when it comes to enterprise cyber security in the borderless organisation,” said Kenny Yeo, Industry Principal, APAC ICT, Frost &amp; Sullivan.

With 95 % of respondents having embarked on a digital transformation journey, adopting emerging technologies, including cloud computing, mobility, Internet of Things, and artificial intelligence/machine learning, the study reveals a big push among APAC organisations for digitization.

However, 65 % of respondents acknowledged that they were seriously hampered in execution of digital transformation projects due to rising cyber attacks.

One of the key reasons for this is the less mature approach by business leaders to involve cyber security when designing digital transformation projects. It is also evident from the fact that around 83 % of the companies did not consider cyber security until after their digital transformation projects had begun.

Cloud has become one of the key components that is leading digital transformation with 69 % of firms adopting cloud. But 54 % of respondents perceive that their cloud service provider will take the full responsibility for security.

Normally, security and compliance are a shared responsibility between an organisation and the cloud service provider. This serious misconception around responsibility of security in the cloud is resulting in a higher number of cyber attacks, says the study.

The finding suggests the majority of companies have taken measures to protect themselves against cyber incidents, with 72 % of them performing breach assessments at least once per quarter. Despite the readiness, 55 % of organisations were at risk -- either they have encountered a security incident before or they did not do any checks to assess if they have been breached.

The Frost &amp; Sullivan study reveals the impact digital transformation is having on each organisation's risk posture. As more digital technology is built into business like cloud and mobility, it is opening each firm up to more threats.

Data exfiltration, impersonation -- both theft of digital identity and online brand impersonation -- as well as loss of intellectual property and malware infection emerged as the top security blind spots for companies rolling out digital transformation. They have high levels of business impact and long recovery times, says the study.

Machine Learning and AI: An unsolved puzzle

The enterprises are trying to harness the explosion of digital data and computational power with advanced algorithms. However, there's still a lot of confusion within the public and the media regarding what is ML and AI.

The most buzzed-about disruptive technologies that are changing business landscapes today are Machine Learning (ML) and Artificial Intelligence (AI). Almost all of us have heard or read about them but do we actually know what the fuss is all about?

The enterprises are trying to harness the explosion of digital data and computational power with advanced algorithms to enable collaborative and natural interactions between people and machines.

However, there's still a lot of confusion within the public and the media regarding what is ML and AI.

People prefer to write AL and ML technologies -- and not ML and AI -- and the argument goes that the former syncs well with the human mind. Both the terms are often being used as synonyms and in some cases as discrete, parallel advancements. In reality, ML is to AI what neurons are to human brain. Let us start with ML.According to Roberto Iriondo, Editor of Machine Learning Department at Carnegie Mellon University in Pennsylvania, ML is a branch of AI.As coined by computer scientist and machine learning pioneer Tom M. Mitchell, “ML is the study of computer algorithms that allow computer programmes to automatically improve through experience”.

For instance, if you provide an ML model with songs that you enjoy, along with audio statistics (dance-ability, instrumentality, tempo or genre), it will be able to automate and generate a system to suggest you music that you'll enjoy in the future, similarly as to what Netflix, Spotify and other companies do.“In a simple example, if you load an ML programme with a considerable large data-set of X-ray pictures along their description, it will have the capacity to assist the data analysis of X-ray pictures later on,” said Iriondo.The ML model will look at each one of the pictures in the data-set, and find common patterns in pictures that have been labelled with comparable indications.

AI, on the other hand, is exceptionally wide in scope and is a system in itself and not just independent data models. In simpler terms, AI means creating computers that behave in the way humans do. However, according to Theo van Kraay, Cloud Solution Architect (Advanced Analytics &amp; AI), Customer Success Unit at Microsoft, any attempt to try to define AI is somewhat futile, since we would first have to properly define “intelligence”, a word which conjures a wide variety of connotations.“Firstly, it is interesting and important to note that the technical difference between what used to be referred to as AI over 20 years ago and traditional computer systems, is close to zero,” says van Kraay. What AI systems today are doing reflects an important characteristic of human beings which separates us from traditional computer systems - human beings are prediction machines. Many AI systems today, like human beings, are mostly sophisticated prediction machines. “The more sophisticated the machine, the more it is able to make accurate predictions based on a complex array of data used to train various (ML) models, and the most sophisticated AI systems of all are able to continually learn from faulty assertions in order to improve the accuracy of their predictions, thus exhibiting something approximating human intelligence," van Kraay said. Most ML algorithms are trained on static data sets to produce predictive models, so ML algorithms only facilitate part of the dynamic in the definition of AI. Fifty years ago, a chess-playing programme was considered a form of AI. Today, a chess game would be considered dull and antiquated, due to the fact that it can be found on almost every computer."AI today is symbolised with human-AI interaction gadgets like Google Home, Apple Siri and Amazon Alexa or ML-powered video prediction systems that power Netflix, Amazon and YouTube," says Iriondo.

Hackers Steal $40 Million Worth of Bitcoin from Binance Exchange

Binance, the world's largest cryptocurrency exchange by volume, has confirmed that $40 million in cryptocurrency has been stolen by hackers. The company has released a statement describing how the theft included API keys, two-factor codes and other information.

The hackers stole the contents of the company hot wallet which contains more than 7,000 bitcoins. Binance estimates the theft was about 2 percent of its total bitcoin holdings.

"The hackers used a variety of techniques, including phishing, viruses and other attacks. We are still concluding all possible methods used. There may also be additional affected accounts that have not been identified yet," a statement from the company reads.

The company says they are now doing a thorough investigation that will take a week during which they will post updates.

"The hackers had the patience to wait, and execute well-orchestrated actions through multiple seemingly independent accounts at the most opportune time. The transaction is structured in a way that passed our existing security checks. It was unfortunate that we were not able to block this withdrawal before it was executed. Once executed, the withdrawal triggered various alarms in our system. We stopped all withdrawals immediately after that," the statement continued.

CEO takes a transparent approach

CEO of Binance, Changpeng Zhao did a 'ask me anything' on Twitter and Periscope where he gave more details on the attack saying it was a very advanced and well-executed effort. He assures customers that the company can recover the lost coins without help though they don't have exact details on how many accounts have been affected.

The company will hold all withdrawals or deposits until they have confidently secured the exchange. They are reportedly working with other exchanges to block deposits from hacked addresses.

User should take steps to secure their wallets

Binance urges its users to change their API keys and two-factor authentication.

In response to questions about potentially issuing a rollback, Zhao said "to be honest we can do that probably within the next few days but there are concerns that if we were to do a rollback on the bitcoin network on that scale, it may have some negative consequences in terms of destroying credibility for bitcoin, so our team is still deciding on that and running through the numbers and checking everything. We will try to maintain very high transparency."