KIET GROUP OF INSTITUTIONS

Department of Computer Applications (MCA)

TECHNICAL

Newsletter

Vol.III Issue 3 Mar 2020

Highlights

- Alumni Section

- ISRO to launch GISAT-1 Geo-Imaging Satellite in March

- Android 11 developer preview released

- AI-Based defence technologies are hot topic at India DEFEXPO 2020

- Wearable sensor predicts heart failure crises early

- New antibiotic discovered using machine learning algorithm

- Drones needed for 'critical role' combating climate change

- Fossil fuel industry breaks wind more than expected

- Govt to host Artificial Intelligence-focused Raise 2020 summit in April

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Stepping Into The Future With Java Script!

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Future is uncertain, but with data and technology we tend to predict the future. When it comes to technology, programming languages have become vital to it in the 21st-century.

We've many programming languages which are capable of accomplishing a diverse range of tasks. JavaScript is one of the leading programming languages. It is called the programming language of the web. JS is a part of the ever-increasing number of programming options.

The advent of Node.js enabled JS to extend its reach to the server-side. It became easier for organizations to come in contact with full-stack developers that can work on both frontend and backend using JavaScript.

It is the main powerhouse behind the rapidly evolving Internet. It is the present and will be the future. The development of the high-level programming language approves the fact of JavaScript being the future. Below are the reasons why Java Script is considered as the future:

- Rules the Web – Most of the Internet today is powered by JavaScript. The stats are supposed to go up in the future.
- Frameworks – Java Script provides you with number of options in frameworks namely AngularJS, Ember.js Metero.js, ReactJS, and VueJS are few of the wide variety of frameworks available for JavaScript
- Speed – ECMAScript 6 and related technologies are developed for modern web requirements, where speed is a must.
- Availability of Packages – Java Script provides you with a package for almost everything you can think of. In fact, npm is the world's largest software registry with a total of over 800,000 build blocks.So, the possibilities of creating with JavaScript are simply immense.

How to Learn JavaScript?

Learning JavaScript is much easier now, thanks to the Internet. The Web has so many places that offer a productive JavaScript learning experience. Additionally buying books and enrolling at non-virtual classes can also help.

There are many online web resources that you can use for learning JavaScript. While some are completely free, others are partially or completely paid. Moreover, newer places to learn JavaScript are coming out every now and then.

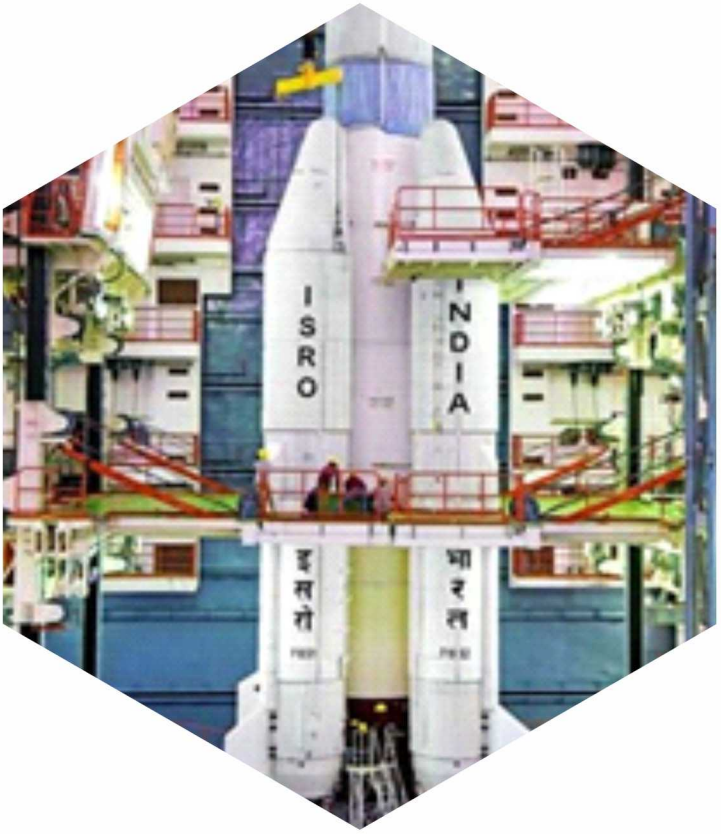
The answer to the question, "How to Learn JavaScript?" has no definite answer. It depends entirely on one's preferences. You can attend virtual lectures, go through tutorials, join online classes, read articles, study ebooks, view YouTube videos, and so on. Therefore, the most important things that you need while learning JavaScript, or any other programming language, are patience and persistence. JS is one of the easiest programming languages to learn and offers some of the most outstanding opportunities for those mastering the craft.

ISRO to launch GISAT-1 Geo-Imaging Satellite in March

The Indian Space Research Organisation has announced its plans to launch a new geo-imaging satellite called GISAT-1 into space on March 5 at 5:43pm (IST). The space agency will launch the new satellite from Satish Dhawan Space Centre in Sriharikota using the GSLV-F10. The satellite is designed to observe the Indian subcontinent under 'cloud-free conditions' at frequent intervals.

"Weighing about 2268 kg, GISAT-1 is the first state-of-the-art agile Earth observation satellite which will be placed in a Geosynchronous Transfer Orbit by GSLV-F10. Subsequently, the satellite will reach the final geostationary orbit using its onboard propulsion system," says ISRO about its new satellite. The satellite is equipped with multi-spectral (visible, near infra-red and thermal), multi-resolution (50 m to 1.5 km) imaging instruments.

According to the Indian space agency, GISAT-1 has a diameter of four metres and its payload fairing bears the shape of an ogive. With the launch of GISAT-1, ISRO will use its GSLV for the fourteenth time. Once deployed, GISAT-1 can capture selected field images every five minutes and the entire Indian landmass every thirty minutes at a spatial resolution of 50m. GISAT-1 has a planned lifespan of 7 years.



Android 11 developer preview released

Google rolled out the first developer preview of Android 11 and it is now available for the developers to download and test it. Google usually releases the first preview in March but this time the release was preponed a bit. Previews are released by Google so that the developers can try and test it. Google will then receive feedback on the software and what improvements it will require for the next version. The release of Android 11 is scheduled for later this year.

As per a report published in Android Headlines, the app will have a host of new features. Some features will change the way how you interact with your friends and family using social media apps. Here's what you can expect from the Android11-

Active notification panel

The Android users already had the feature to reply to messages directly from the notification panel but the Android 11 will reportedly allow users to even send images from the notification panel.

Option to Stop notifications while shooting a video or clicking a picture

It gets very annoying when you are trying to capture the perfect picture or shoot a video but the notifications from the messaging apps keep popping up. It distracts you, disrupts your vision and even interrupts the video you are trying to shoot. But things will not be the same in Android 11.

Google will support digital IDs

Remember the number of times you forgot to carry your identity card? Well, worry no more because you may no longer have it carry it all the time. The Android 11 will reportedly come with support for digital IDs. In simple terms, the feature will allow users to store their Driving license, Voters ID card or Aadhar card in their phone's wallet just like they did for their credit, debit or any other cards

AI-Based defence technologies are hot topic at India DEFEXPO

Artificial intelligence, autonomous systems, ubiquitous sensors, are at the forefront of the military's digital transformation. The objective of Defence-Expo is to culminate the most advanced technologies in the defence sector under one place, giving lots of opportunities for the government, private companies, and startups.

A Bengaluru-based defence public sector company BEML also plans to introduce an artificial intelligence-based mobile for healthcare diagnosis at the Defence -Expo2020. Apart from this, BEML has also manufactured truck-mounted excavators, high-capacity engines for the Defence Research and Development Organisation (DRDO), autonomous ground vehicles (tracked and wheeled), mounted gun systems in association with the Ordnance Factory Board (OFB), and infrared signature suppression systems for the Navy.

The Goa Shipyard (GSL), another defence public sector organisation, is also undergoing a modernisation of its yard to implement cutting edge technologies in shipbuilding. The high-level cognitive process used in its shipbuilding products are Condition Monitoring System (CMS) for shipboard equipment that has been developed in partnership with Infosys; and Face Recognition and Geo-Fencing Security System that were developed in collaboration VLPL, Vizag.

Another company L&T will showcase its innovative digital solutions for defence leveraging technologies like IoT,AI/ML & AR/VR.

According to L&T technology play a crucial role in modern national security and next-generation warfare. L&T also stated that its technologies would enable defence forces with real-time monitoring and simulation to improve asset availability and performance, which in turn will minimise operating costs and extend the lifespan of critical assets.

Wearable sensor predicts heart failure crises early

Scientists in the US have developed a wearable sensor that could help doctors remotely detect critical changes in heart failure patients before a health crisis occurs, preventing hospitalisation.

According to its creators from the University of Utah (U of U) Health and VA Salt Lake City Health Care System, the device could eventually help avert up to one in three heart failure re-admissions in the weeks following initial discharge from the hospital and help patients sustain a better quality of life.

"This study shows that we can accurately predict the likelihood of hospitalisation for heart failure deterioration well before doctors and patients know that something is wrong," said Josef Stehlik, co-chief of the advanced heart failure program at U of U Health. "Being able to readily detect changes in the heart sufficiently early will allow physicians to initiate prompt interventions that could prevent re-hospitalisation and stave off worsening heart failure."

Approximately 6.2 million Americans live with heart failure and it is the top hospital discharge diagnosis in the US. Up to 30 per cent of these patients will likely be readmitted to the hospital within 90 days of discharge with recurrent symptoms including shortness of breath, fatigue and fluid build-up. In many cases, hospitalisation diminishes a patient's ability to care for themselves independently.

A new wearable sensor could lead to early detection and treatment of heart failure symptoms and prevent recurrent hospitalizations. "Those individuals who have repeated hospitalizations for heart failure have significantly higher mortality," said Biykem Bozkurt, director of the Winters Center for Heart Failure Research at the Baylor College of Medicine in Houston. "Even if patients survive, they have poor functional capacity, poor exercise tolerance and low quality of life after hospitalisations. This patch, this new diagnostic tool, could potentially help us prevent hospitalisations and decline in patient status."

As part of a study on the device, the researchers followed 100 heart failure patients – with an average age of 68 – who were diagnosed and treated at four VA hospitals in Salt Lake City, Utah; Houston, Texas; Palo Alto, California; and Gainesville, Florida.

After discharge, the participants wore an adhesive sensor patch on their chests 24 hours a day for up to three months. The sensor monitored heart rate, heart rhythm, respiratory rate, walking, sleep, body posture and other normal activities of each subject. The sensors established a normal baseline for each patient, transmitted the information from the sensor to a smartphone via Bluetooth, and then passed it to an analytics platform on a secure server. When vital signs deviate from normal, the sensors activate an alert indicating that the patient's heart failure is worsening. Wearable sensors like this one could help doctors remotely detect cardiovascular changes in heart failure patients days before a crisis occurs.

Overall, the system accurately predicted the impending need for hospitalisation more than 80 per cent of the time, the researchers said. On average, this prediction occurred 6.5 days before a re-admission took place.

New antibiotic discovered using machine learning algorithm

A powerful new antibiotic has been discovered by scientists using a machine learning algorithm.

In laboratory tests, the drug killed many of the world's most problematic disease-causing bacteria, including some strains that are resistant to all known antibiotics. It also cleared infections in two different mouse models.

The group of researchers from Massachusetts Institute of Technology (MIT) claim the technology is able to work more quickly and efficiently than existing efforts, because it checks more than a hundred million chemical compounds in a matter of days to pick out potential antibiotics that kill bacteria.

It was trained specifically to track down possible antibiotic molecules known for being effective against E.coli growth.

"We're facing a growing crisis around antibiotic resistance, and this situation is being generated by both an increasing number of pathogens becoming resistant to existing antibiotics, and an anaemic pipeline in the biotech and pharmaceutical industries for new antibiotics," said MIT's Professor James Collins, who is also co-founder of antibiotic drug discovery firm EnBiotix.

He added: "We wanted to develop a platform that would allow us to harness the power of artificial intelligence to usher in a new age of antibiotic drug discovery.

"Our approach revealed this amazing molecule which is arguably one of the more powerful antibiotics that has been discovered."

The molecule, named halicin, proved effective against E.coli, which did not develop any resistance to it during a 30-day treatment period on mice. They hope to eventually be able to use the drug on humans.

Over the past few decades, very few new antibiotics have been developed, and most of those newly approved antibiotics are slightly different variants of existing drugs.

Current methods for screening new antibiotics are often prohibitively costly, require a significant time investment, and are usually limited to a narrow spectrum of chemical diversity.

The new machine learning method could make it easier to find new drugs in future. The researchers train the algorithm on about 2,500 molecules that are already known to be effective at killing E. coli.

Once the model was trained, the researchers tested it on a library of about 6,000 compounds and picked out one molecule that was predicted to have strong antibacterial activity, and had a chemical structure different from any existing antibiotics.

Using a different machine-learning model, the researchers also showed that this molecule would likely have low toxicity to human cells.

New antibiotic discovered using machine learning algorithm

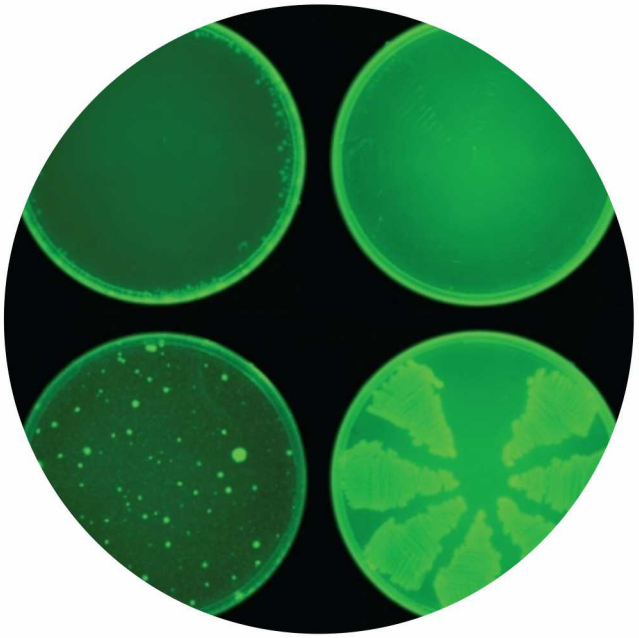
to be continued...

The researchers also identified several other promising antibiotic candidates, which they plan to test further. They believe the model could also be used to design new drugs, based on what it has learned about chemical structures that enable drugs to kill bacteria.

Data scientist Mark Frankish at SAS UK & Ireland said the discovery marks a "huge step forward" for the applications of AI in healthcare. "The technology is now more accurate than humans in diagnosing brain tumours, and its use in discovering new antibiotics is a sign of its widening scope," he said.

"That being said, it will by no means make human doctors redundant. Instead, it will work in unison with clinicians and other medical staff, unburdening them from hours of manual processes by saving them vital time to treat patients.

"With an effective cure for the coronavirus yet to be found and fears of antibiotic resistance on the rise, the use of AI in drug discovery comes at the right time. A combination of AI, human expertise and global collaboration will allow for further developments, enabling the NHS to derive maximum value and ultimately, save more lives."



Drones needed for 'critical role' combating climate change

Drones could play a "critical role" in helping scientists tackle climate change, according to an entrepreneur who has teamed up with the University of Southampton to improve both drone efficiency and battery life.

Tracking environmental degradation can be difficult to achieve, especially in large, unpopulated areas. Speaking to the press association (PA), technology entrepreneur Ewan Kirk said that drones are one of the easiest ways to collect important data from these remote regions.

A system was already demonstrated last year where data from remote IoT devices is harvested by passing drones that feed it back to a central database once they return to their charging station.

They are also being used to remotely monitor animals in national parks in South Africa to help prevent poaching and collect data on migration patterns and during the wildfire crisis in September, Australian authorities used drones to drop self-igniting "dragon eggs" in an attempt to control the spread of the fire.

While drones are useful for collecting important data from remote regions, their practicality has been restricted by their efficiency and battery life. While longer-range unmanned aerial vehicles (UAV) do exist, they can be too expensive to deploy on a larger scale.

Speaking to PA, Kirk - who directs the Turner-Kirk Charitable Trust - said: "Climate change is undoubtedly the biggest issue facing us all and as we get to grips with tackling this issue I fundamentally believe the development and deployment of technology - including UAVs - has a critical role in our global response.

"In the fight against poaching, UAVs can be an incredibly valuable resource to authorities. For example, at over 7,000 square miles, the Kruger National Park in Africa is almost the same size as Wales and poaching can happen anywhere and at any time of the day or night.

"To effectively patrol this area, anti-poaching agencies need UAVs with long flight times and they need them to be cheap enough that they can have many of them flying simultaneously."

He added he would like UAVs to be an essential tool at the fingertips of those environment agencies already helping in the fight against climate change.

"They will help them gather data much more quickly and fundamentally I believe technology enables world-leading experts to do their jobs even better," Dr Kirk explained.

He concluded: "In the area of conservation, continuous monitoring of endangered animals by UAVs will enable authorities to identify potential threats and increase the response times for wardens to intercept and prevent any illegal activity.

"Using UAVs to effectively monitor vegetation and land over large areas will help scientists and researchers to create large data sets helping them understand how climate change is affecting some of the world's most critical resources."The programme follows a £15,000 donation from Kirk and partner Patricia Turner.

Fossil fuel industry breaks wind more than expected

The amount of methane in the atmosphere produced from manmade activity could be up to 40 per cent higher than previously thought, scientists have said, contributing significantly to climate change.

Following carbon dioxide, methane is the gas most strongly associated with climate change. Its emissions have increased by approximately 150 per cent over the past three centuries.

Compared with carbon dioxide and other heat-trapping gases it has a relatively short shelf-life. It lasts an average of only nine years in the atmosphere, while carbon dioxide can persist for about a century. That makes methane an especially suitable target for curbing emission levels in a short time frame. However, it is difficult for researchers to determine where these emissions originate from; heat-trapping gases like methane can be emitted naturally, as well as from human activity.

A team from the University of Rochester has been drilling and collecting ice cores from Greenland in order to get to the bottom of how much methane human activity contributes to the atmosphere above that which is released from natural sources.

The ice core samples act like time capsules; they contain air bubbles with small quantities of ancient air trapped inside which can be analysed. The researchers use a melting chamber to extract the ancient air from the bubbles and then study its chemical composition. They focused on measuring the composition of air from the early 18th century to the present day.

Humans did not begin using fossil fuels in significant amounts until the industrial revolution in the mid-19th century. Measuring emission levels before this time period allows researchers to identify the natural emissions absent the emissions from fossil fuels that are present in today's atmosphere. There is no evidence to suggest natural fossil methane emissions can vary over the course of a few centuries.

By measuring the carbon-14 isotopes in air from more than 200 years ago, the researchers found that almost all the methane emitted to the atmosphere was biological in nature until about 1870. After this date it began to rise rapidly coinciding with a sharp increase in the use of fossil fuels. The levels of naturally released fossil methane are also thought to be about 10 times lower than previous research reported.

Given the total fossil emissions measured in the atmosphere today, the researchers speculate that manmade gas release is around 25 to 40 per cent higher than expected. University of Rochester researcher Benjamin Hmiel said the findings were good news: "I don't want to get too hopeless on this because my data does have a positive implication: most of the methane emissions are anthropogenic, so we have more control. If we can reduce our emissions, it's going to have more of an impact."

Govt to host Artificial Intelligence-focused Raise 2020 summit in April

The Indian government on Wednesday (26-FEB-2020) announced it will hold RAISE 2020- 'Responsible AI for Social Empowerment 2020' summit in New Delhi between April 11 and April 12. The RAISE 2020 summit will also host a "Startup Pitchfest."

The summit will be aimed at bringing together people to exchange ideas on the use of Artificial Intelligence for "social empowerment, inclusion and transformation" in industries such as education, smart mobility, agriculture, and healthcare among others.

Ahead of the event, the Ministry of Electronics and Information Technology (MeitY) held a consultation meeting. Apart from the government officials, industry bodies including FICCI, CII, ASSOCHAM & NASSCOM and companies such as Intel, AWS, KPMG, IBM, Oracle and AI startups participated in the consultation.

"We are extremely delighted to announce the first of its kind two-day summit- 'Responsible AI for Social Empowerment 2020'. In our opinion, a data-rich environment like India has the potential to be the world's leading AI laboratory which can eventually transform lives globally. AI technology is a powerful tool that can be used to create a positive impact in the Indian context, further becoming the AI destination for the world, " Ajay Prakash Sawhney, Secretary, Ministry of Electronics and Information Technology (MeitY), said.

Some of the confirmed speakers at the summit include Intel Corp. CEO Robert (Bob) H. Swan, Biocon Limited Chairman & Managing Director Kiran Mazumdar Shaw, and Narayana Health Chairman & Founder Dr Devi Shetty.