PATUCK-GALA COLLEGE OF COMMERCE & MANAGEMENT

RESEARCH & PUBLICATION CELL

STUDENT BULLETIN BOARD

AUGUST 2023

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CHANDRAYAAN-3: INDIA'S HISTORIC LANDING ON MOON

Chandrayaan-3 is India's third lunar mission and the first attempt to land a spacecraft on the Moon's South Pole. In this article, we will throw light upon the importance of landing on the South Pole of the Moon.

Highlights

Chandrayaan-3 is India's third lunar mission and the first attempt to land a spacecraft on the Moon's South Pole. The spacecraft demonstrated a safe and soft landing on the lunar surface.

The historic landing of ISRO's Chandrayaan-3 spacecraft on the Moon makes India the fourth nation to ever soft land on the lunar surface.

Chandrayaan-1 was India's first lunar mission that detected the presence of water molecules on the lunar surface and water-ice deposits in the base of the craters.

Why does the Moon's South Pole fascinate scientists? What makes the Moon's South Pole so important for the Chandrayaan-3 mission?

Chandrayaan-3 is India's third lunar mission and the first attempt to land a spacecraft on the Moon's South Pole. The mission was launched on July 14, 2023, from the Satish Dhawan Space Centre in Sriharikota, India. Over 40 days after the launch, the Chandrayaan-3 gently landed on the Moon around 6:04 pm on August 23, 2023.

In a follow-on mission to Chandrayaan-2, the Chandaryaan-3 mission demonstrated a safe and soft landing on the lunar surface. It will now carry out in-situ scientific experiments on the Moon.

The historic landing of ISRO's Chandrayaan-3 spacecraft on the Moon makes India the fourth nation to ever soft land on the lunar surface. The landing of Chandrayaan-3 on the Moon's South Pole is a significant achievement for India's space program. Previously, only the US, China, and the former Soviet Union have accomplished this feat.

In this article, we will understand why it is important to land on the South Pole of the Moon. But first, let us know about Chandrayaan-3 and the quest for water on the Moon.

What is Chandryaan-3?

The Chandrayaan-3 spacecraft consists of three modules: an orbiter, a lander, and a rover. The orbiter will study the moon's surface and atmosphere, while the lander will attempt to land on the South Pole to measure the thermal conductivity and temperature, seismic activities, and plasma density. The rover will then explore the lunar surface and study elemental composition in the vicinity of the landing site.

ISRO's Chandrayaan-2 mission was India's second lunar mission. However, the spacecraft's lander 'Vikram' crashed during its final descent to the surface. Despite the lander crash, the Chandrayaan-2 mission orbiter continued to study the moon for over a year, and it provided valuable scientific data.

But did you know, that Chandrayaan-1 was India's first lunar mission that detected the presence of water on the Moon?

There is water on the Moon? Yes!

The quest for water on the Moon began in 2008 when Chandrayaan-1 suggested the existence of water. Moon Mineralogy Mapper (M3) aboard Chandrayaan-1 made one of its biggest discoveries in the water quest on the Moon. As published on the official site of ISRO, the data confirmed the presence of Hydroxyl & water molecules on the lunar surface and water-ice deposits in the base of the craters.

Since the previous missions have suggested the highest potential for water in the Polar Regions, Chandryaan-3 will be the first to explore the Moon's South Pole to gather more insights into lunar water. Let us understand the 'why' behind it.

Why is it important to land on the South Pole of the Moon?

Water ice has been detected on both poles of the Moon through a number of spacecraft over the past few decades. However, space agencies and aerospace experts suggest that the lunar South Pole has been in permanent shadow (sunlight never reaching the surface) and colder temperatures as low as -230 degrees Celsius hence it is thought to have more water ice.

The presence of water ice on the permanently shadowed regions of the Moon's South Pole has been detected by several missions to the Moon such as the Clementine mission in 1994. Subsequent missions, such as the Lunar Prospector mission, Chandryaan-1 mission and the LCROSS mission.

Water ice is a valuable resource for future human exploration of the Moon, as it could be used for drinking water, fuel, and oxygen.

The South Pole of the Moon is also home to a number of unique geological features, such as the South Pole-Aitken basin, the largest impact basin in the solar system. Scientists could study the lunar surface, atmosphere, and subsurface in this region to learn more about the Moon's history, geology, and potential resources.

The South Pole of the Moon is a potential site for a lunar outpost. A lunar outpost would allow scientists to conduct long-term research on the Moon and would also provide a staging ground for future human missions to the Moon and beyond.

Source - https://www.jagranjosh.com/general-knowledge/chandrayaan-3-why-is-it-important-to-land-on-the-south-pole-of-the-moon-1692794728-1

EMPOWERING APP DEVELOPERS WITH POPULAR AI PLATFORMS FOR MODERN APPLICATION DEVELOPMENT

Artificial intelligence (AI) has transformed modern app development, revolutionizing how applications are built, deployed, and maintained. With the power of AI, developers can enhance user experiences, automate processes, and leverage data-driven insights to create cutting-edge applications. This article explores some of the most popular AI platforms that have reshaped modern app development and empowered developers to build intelligent, efficient, and user-centric applications.

1. TensorFlow

TensorFlow, developed by Google's Brain Team, is an open-source AI platform that has emerged as one of the most popular choices among developers. It provides a comprehensive ecosystem for building machine learning models, from simple tasks to complex deep learning architectures. TensorFlow's versatility and scalability make it ideal for various AI applications, including computer vision, natural language processing, and speech recognition.

2. PyTorch

PyTorch, developed by Facebook's AI Research Lab (FAIR), is another prominent open-source AI platform recently gaining significant traction. Known for its intuitive and flexible design, PyTorch has become a favourite among researchers and developers. Its dynamic computation graph enables easier debugging and faster prototyping, making it an excellent choice for deep-learning projects.

3. IBM Watson

IBM Watson is a cloud-based AI platform offering powerful tools and services for AI app development. Developers can leverage Watson's pre-trained AI models and APIs to integrate capabilities such as language translation, sentiment analysis, and image recognition into their applications. IBM Watson's ease of use and extensive documentation make it accessible to developers of all skill levels.

4. Microsoft Azure Cognitive Services

Microsoft Azure Cognitive Services is a collection of AI services and APIs provided by Microsoft's cloud computing platform, Azure. With many offerings, developers can easily incorporate AI capabilities, such as vision, speech, language, and decision-making, into their applications. Azure's seamless integration with other Microsoft tools and services simplifies the development and deployment.

5. Amazon AWS AI/ML Services

Amazon Web Services (AWS) offers a comprehensive set of AI and machine learning services, enabling developers to quickly build sophisticated AI-driven applications. AWS AI/ML services include SageMaker for building, training, and deploying machine learning models, Recognition for image and video analysis, and Polly for text-to-speech capabilities.

6. Google Cloud AI

Google Cloud AI provides a suite of AI and machine learning tools to support developers in building intelligent applications. The platform offers AI building blocks, APIs, and pre-trained models, enabling developers to add natural language understanding, speech recognition, and vision capabilities to their apps. Google's AutoML technology also allows users to build custom machine-learning models with minimal coding knowledge.

7. H2O.ai

H2O.ai is an open-source AI platform designed for organizations looking to deploy machine learning and deep learning models at scale. It provides extensive algorithms and tools that enable developers to create powerful AI applications. H2O.ai's AutoML feature automates the model selection and tuning process, making it easier for developers to build accurate models quickly.

Source - https://www.analyticsinsight.net/popular-ai-platforms-for-modern-app-development/

DIGITAL MARKETING TRENDS TO EXPECT IN 2023

Technology and marketing are continually developing, with new ideas emerging every day. As they continue to evolve, it's important to make sure that businesses are able to adapt strategies to popular trends as you learn about them.

Here are five of the digital marketing trends that are expected to witness in 2023 and how advantage can be taken of them.

1. Small Businesses Will Increase Their Use of Influencers

Smaller brands are expected to increase their use of influencer marketing to keep up with trends in 2023. The use of influencer marketing has grown in recent years, along with platforms like TikTok where authenticity is key for success. More influencers are focusing on specific niches, which allows businesses to be more specific in who they target with influencer marketing.

The growth of influencers represents an incredible opportunity for small businesses. Of course, small businesses can build their own audiences on social media and share their products to make sales. However, research has shown that 61% of consumers trust product recommendations from friends, family members or influencers on social media, while only 38% trust brand recommendations.

Influencer partnerships can help to increase the reach, build trust and drive sales. To use influencer marketing, try reaching out to local influencers or well-known names to see whether they would consider endorsing the brand, product or service. One can also consider widening their reach with influencer marketing platforms that help to select and manage influencers from all over the world who may be right for the brand.

2. Chatbot Use Will Increase

Chatbots have become an innovative way for brands to connect with customers. Through chatbots, accessibility to users increases and more the degree of responsive to their problems and concerns enhances. Chatbots can also be used to gather information about customers and their preferences.

It is believed that use of chatbots is going to continue to expand as AI—the basis for most chatbot software—becomes smarter and more effective. If the business thinks that chatbot is the right tool, consider researching more about AI and how companies similar have used chatbots to transform their digital presence.

3. SEO And Influencer Marketing Integration Will Become A Must

Search engine optimization has always been important for digital marketers, but it is predicted that it will be an even more crucial part of digital marketing strategy in 2023. SEO is commonly integrated into web copy. However, we're seeing more emphasis on optimizing different types of media, like photos and videos, to reach internet users. I also expect the use of backlinks and AI SEO tools to be more important this year.

Along these lines, integrating influencer marketing into SEO strategies is another to see in 2023. This is important because influencers can provide social proof and digital authority. Influencers can be linked back to the website as often as possible while embedding anchor text keyword links to pass on their authority to the website.

4. Niche Content Will Get More Niche

Niche is another word for brand's specific, narrowed-down audience. Niche is a part of specifically defining what the brand does and who is in the community of people who care about the mission, service or product. In 2023, niche content is to get even more specific as algorithms are continually fine-tuned to serve content to people who will engage with it. This means that brands need to use more specific keywords to interest people who are relevant to the niche.

This also means that community will continue to be an important part of marketing. We are likely see an increased focus on building unique digital communities centred on specified interests. To provide value to the brand's niche, create content that speaks directly to the target audience and answer their specific questions.

5. Creativity On Social Media Will Be More Important Than Ever

People's attention spans are short, meaning digital marketers only have a short time to capture their attention. Social media trends have shifted toward short-form videos and storytelling as ways to get attention and keep it. For these reasons, creativity will likely be more important than ever in 2023. We are going to witness more videos that incorporate lots of movement or a hook so that people will keep watching.

Make sure there is creative not only in the content created but also in the strategies that are used to keep people engaged. Given the wide range of ever-changing content on social media, it's crucial to use strategies that will catch people's attention quickly and make them want to see more. A great example is using YouTube Shorts. These are vertical videos that are 60 seconds or less in length and rival other short-form video content like TikToks and Instagram Reels.

If businesses are using platforms like YouTube, TikTok and Instagram, be sure to explore the insights and data they provide. They can help to inform the business about how long people viewed the videos, indicating which content kept their attention the best. These are important metrics to pay attention to so that the content strategy can be adjusted as needed.

Where To Go From Here?

In 2023, major trends will likely be centred around influencers, chatbots and creative content that engages the audience. But no matter which strategies and platforms are used, the most important thing to keep in mind is how to will them to enhance the brand's presence.

Source - https://www.forbes.com/sites/forbesagencycouncil/2023/03/31/5-digital-marketing-trends-to-expect-in-2023/?sh=1f674e9d33f6