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Digital Twins Dr. Madhav Bokare

What are Digital Twins?

A digital twin is a virtual representation of a physical object or system that is linked to its real-world counterpart. It uses sensor data, artificial intelligence, and machine learning to track the physical object's condition and performance in real-time. This allows for predictive maintenance, improved operational efficiency, and better decision-making.

How do digital twins work?

Data Collection: Sensors attached to the physical object collect data about its condition, such as temperature, pressure, vibration, and more.

Data Analysis: Artificial intelligence and machine learning algorithms analyze the data to identify patterns and trends.

Simulation and Prediction: The updated model is used to simulate the future behavior of the physical object under different conditions.

Insights and Actions: The insights from the simulation are used to make informed decisions about the physical object, such as when to perform maintenance or how to optimize its performance.

Key Aspects of DigitalTtwins

Physical Object or System: Digital twins are typically associated with physical entities such as machines, products, buildings, or even entire ecosystems. They can also represent processes or systems.

Data Integration: Data from various sensors and sources are collected to create a digital twin. This data may include information about the object's current state, performance metrics, environmental conditions, and more.

Real-time Monitoring: One of the primary purposes of a digital twin is to enable real-time monitoring of the physical object or system. This allows for proactive maintenance, performance optimization, and the ability to respond quickly to changes or issues.

Analysis and Simulation: By manipulating the digital twin, users can simulate different scenarios and understand the potential impacts on the physical counterpart.

Lifecycle Management: Digital twins can cover the entire lifecycle of a product or system, from design and development to operation and maintenance.

😊 Just Laugh 😊

Why did the computer go to therapy?

Because it had too many bytes of emotional baggage!

During the session, the therapist asked, "So, what seems to be the problem?"

The computer sighed and said, "Well, I've been feeling a bit 'byte'-en down lately. My startup is slow, I keep losing memory, and sometimes I just can't process my feelings."

The therapist, trying to be supportive, replied, "It's okay, we all have our glitches. Let's start by defragging your thoughts and organizing your emotions. Remember, you're not alone in this interconnected world!"

As the computer left the therapy session, it whispered to itself, "Maybe I should try mindfulness programming to find inner peace" 😊😊😊

Why did the Computer Catch a Cold?

Think.....

Think....

Because, It left its Windows Open! 😊😊😊

Success through the 3 C's

Dr. S. B. Kishor



In the digital age, success hinges on a strategic mastery of the three Cs:

Communications, Content, and Capacity Building.

In the ever-evolving landscape of today's interconnected world, success hinges on the mastery of key elements that drive progress and innovation. Among these, the triumvirate of Communications, Content, and Capacity Building stands out as a compass, guiding individuals and organizations through the complexities of modern challenges.

Communications

Effective communication is the linchpin that orchestrates success. In a world inundated with information, the ability to convey ideas clearly and connect with diverse audiences is paramount. Whether in the realm of business, technology, or social initiatives, effective communication establishes the foundation for collaboration, understanding, and achievement of collective goals. It is the conduit through which ideas are shared, relationships are built, and endeavors are realized.

Content

Content, in its various forms, is the substance that fuels understanding and shapes narratives. Whether delivered through the written word, compelling visuals, or immersive auditory experiences, content engages, informs, and leaves a lasting impression. In the digital age, where attention is a precious commodity, crafting compelling and relevant content is the key to capturing hearts and minds. It is the narrative thread that weaves through the fabric of effective communication strategies, turning information into inspiration.

"Success is not a destination but a journey, and its compass points true north with the three C's: as our guiding stars."

Capacity Building

Capacity building serves as the bedrock for sustained success. In the rapidly changing landscape of technology, business, and beyond, the ability to adapt and grow is non-negotiable. Capacity building involves intentional efforts to enhance skills, knowledge, and resources, empowering individuals and organizations to navigate challenges with resilience. It cultivates a culture of continuous learning and innovation, ensuring that entities not only survive but thrive in dynamic environments.

The Synergy in Action

The synergy of Communications, Content, and Capacity Building is where the magic happens. Imagine a scenario where effective communication is paired with compelling content, delivered by individuals and organizations fortified with the capacity to adapt and innovate.



What is Research?

Research is simply a collection of **【Input】**



and Evaluation/Study of data **【Process】** about a topic of your research work of certain discipline/subject domain and finally, produce/Announce new and relevant information **【Output】** that is useful to society.



[Input]

Source of Data

- Primary Data Collection (Interviews, Survey, Experiments, Brainstorming, Case Studies, etc.)
- Secondary Data / Published data :- In the form of various sources (book, Chapter in book, Periodicals, Journals, News Paper, Case Study, Website, Videos, Interview, Earlier Thesis work, Patent, etc.)
- Qualitative/Quantitative data
- Comprehensive Literature Review (CLR)

[Process]

Analyze the Data

Selection of appropriate Research method based on

Type of Data

For quantitative data, you can use statistical analysis methods to test relationships between variables.

For qualitative data, you can use methods such as thematic analysis to interpret patterns and meanings in the data.

Experiment Method

The experimental methods (pre-experimental, quasi-experimental, and true experimental research) involves the manipulation of variables

[Output]

• The overall purpose of any research is to Generate a New Concepts which is simple to accept.

• Providing better alternative to previous one i.e. Improvement over previous.



Embedded Watch with many new useful features

Safer Internet Day Dr. Ulhas Patki

Every year on the **Second Tuesday in February**, Safer Internet Day is a vital campaign that promotes a safe and enjoyable online experience. In an era characterized by the swift advancement of technology, this day tackles the diverse issues encountered by users worldwide. Today emphasizes the need of raising awareness and educating people about issues ranging from disinformation to cyberbullying, ethical use of social media, and online privacy.

Education programs that are specifically designed for different age groups are essential in equipping people with the information and abilities required to securely

traverse the digital world. The effort encompasses not just individual accountability but also the joint responsibilities of governments, communities, and technological firms. Safer Internet Day is a call to action rather than just a time for introspection. It exhorts people to embrace appropriate online conduct, consider their posts before making them, and actively support a healthy online community. The effort aims to build a helpful online community by encouraging kindness, respect, and empathy. Safer Internet Day serves as a lighthouse, pointing the way for society to go toward a time when the internet is not just a place of endless possibilities but also one that is based on constructive interaction, safety, and inclusion. Today encourages a dedication to building a safe and prosperous digital environment for people of all ages by awareness-raising, education, and group efforts.

Publish Article

- 1) Heading Size should be 14-16
- 2) Normal Text size 9
- 3) Font : Times New Roman / Arial
- 4) Article should be original

- 5) Cite whenever copying & Pasting sentences/idea
- 6) Article should have word counts 120-300 words
- 7) Upload it via News Letter page www.aacst.org