for the Vision Transformer (ViT) model provides a detailed of the model's performance in identifying actual and fake images. the ViT model has precision, recall, and F1-score values of 98%. When the model predicts an image as" Real," it is correct 98% of the time, captures 98% of actual" Real" instances, and gets a balanced F1-score of 98%. The collection contains 4760 instances of genuine photos, according to the support column. Fake Class: Similarly, for the class labelled" Fake," the model has precision, recall, and F1-score values of 98%. This indicates that the model correctly predicts" Fake" images 98% of the time, detects 98% of real" Fake" instances, and obtains balanced

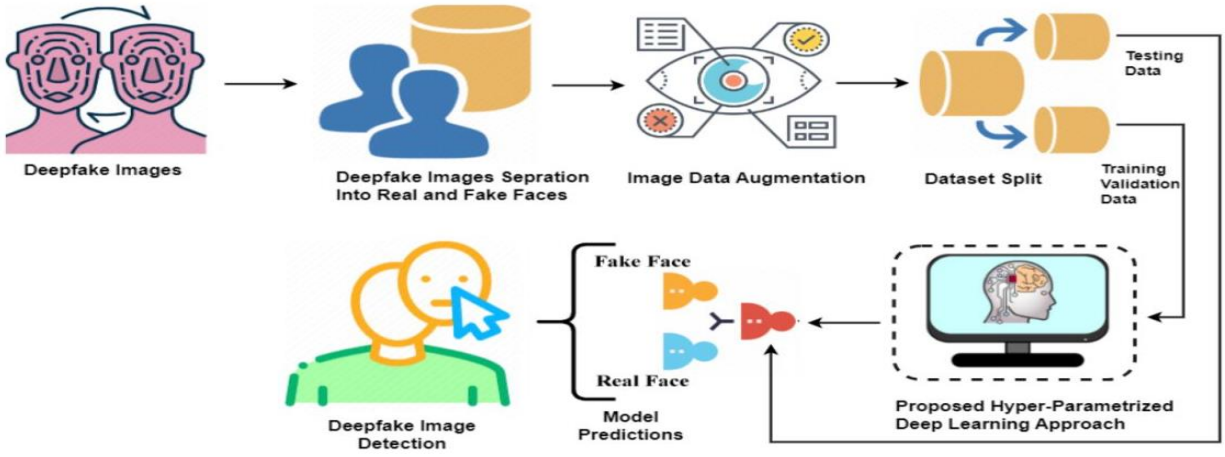

Fig 1. Visualization of fake and real image [3].

Conclusion

The proposed technique is a complex and complete framework that incorporates cutting-edge models and methodologies for successful actual and false image recognition. The findings demonstrate the validity of these approaches, particularly the Vision Transformer model, in addressing the issues provided by deepfake technology, as well as the possibility for enhanced deep learning solutions in ensuring the authenticity of visual material in our information world.

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HARNESSING THE POWER OF TECHNOLOGY IN YEMENI EDUCATION: CHALLENGES AND BARRIERS FACED IN TEACHING YEMENI SCHOOLCHILDREN

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Abstract: Yemen's lack of a basic infrastructure and consistent Internet connectivity is one of the biggest obstacles to implementing technology in education. The primary barriers to Yemen's scientific technological advancement will be examined in this study.

Key words: Technology, Yemen, Yemeni school.

Introduction

In the digital age, technology has the potential to revolutionize education, providing

enhanced learning opportunities for students worldwide. However, in Yemen, a country plagued by conflict and limited resources, the depth to which Yemeni schoolchildren are being taught through educational materials that harness the power of technology faces numerous challenges and barriers. This article explores the existing obstacles and limitations that hinder the effective utilization of technology in Yemeni classrooms, highlighting the urgent need for innovative solutions.

Results and discussion

In addition to the difficulties and barriers Yemeni schoolchildren face in their education, we may discuss a number of significant facets of the system for utilizing technology in Yemeni education.

One of the primary challenges in integrating technology into Yemeni education is the lack of essential infrastructure and reliable internet connectivity. Many schools lack access to electricity, computers, and the necessary hardware, making it difficult to implement technology-driven educational initiatives. Inadequate internet connectivity further hampers the utilization of online resources and digital platforms, restricting the availability and accessibility of educational materials.

Yemen's ongoing conflict has severely influenced the country's economy, resulting in limited resources and funding for education. Acquiring and maintaining technology devices, software licenses, and educational applications necessitate financial investment that Yemen's education system struggles to secure. Insufficient funding limits the procurement of necessary technological tools, inhibiting the potential to deliver quality education through digital means.

The effective integration of technology into classrooms requires competent teachers who possess the necessary digital skills and pedagogical knowledge. However, in Yemen, the availability of training programs and professional development opportunities for teachers in utilizing technology for educational purposes is limited. Insufficient digital literacy among educators inhibits their ability to effectively incorporate technology into teaching practices, thereby hindering the optimal utilization of technological resources.

The availability of educational materials that are specifically tailored to the Yemeni context and curriculum is crucial for effective learning. However, the scarcity of localized digital content in Yemeni Arabic and alignment with the national curriculum poses a significant challenge. The lack of culturally relevant and context-specific educational materials limits the potential of technology to engage and resonate with Yemeni schoolchildren, impeding their learning outcomes.

Yemeni society's socio-cultural norms and gender disparities present additional barriers to technology integration in education. Traditional beliefs and gender roles may discourage girls from accessing and benefiting from technology-driven educational initiatives. Addressing these societal barriers and promoting inclusivity is essential to ensure that all Yemeni schoolchildren can fully benefit from the potential of technology in their educational journey.

Conclusion

The depth to which Yemeni schoolchildren can be taught through educational materials that harness the power of technology is constrained by various challenges and barriers. Overcoming limited infrastructure, scarce resources, inadequate teacher training, content localization, and socio-cultural barriers is crucial in unlocking the potential of technology to enhance learning outcomes in Yemen. Urgent investments in infrastructure, teacher capacity building, localized content development, and addressing societal barriers are necessary to provide Yemeni schoolchildren with quality education opportunities that leverage the transformative power of technology. By addressing these challenges, Yemen can pave the way for a brighter future, empowering its young learners to thrive in an increasingly digital world.

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BIOENGINEERING APPLICATIONS FOR ENHANCING PROSTHETIC LIMBS [MINI REVIEW]

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Abstract: This mini report focuses on the utilization of bioengineering in enhancing prosthetic limbs. In recent times, a combination of technical advancements has significantly improved the comfort, efficiency, and realism of artificial limbs compared to earlier iterations. Future advancements in this field are expected to rely on the interplay of three influential factors: the demands expressed by amputees, progress in surgical and engineering techniques, and adequate healthcare funding necessary to support the development and implementation of technological solutions.

Key words: technical innovations, artificial limbs. Innovations, interaction, amputees. Technological solutions, innovative prostheses, developments.

Introduction

A prosthesis is an artificial replacement for a missing or lost body part, whether due to birth defects, accidents, amputation, or medical conditions such as cancer, diabetes, or severe infection. Prostheses can be used as an alternative to reconstructive surgery, such as creating a prosthetic breast after breast removal due to cancer. Modern prostheses, particularly for hands, feet, and the face, are designed to appear natural and improve appearance. Technological advancements have also enhanced the functionality of limb prostheses, with some incorporating battery-powered motors for improved movement, such as prosthetic hands with articulated fingers.

Prostheses can include surgically implanted artificial body parts like replacement heart valves, bones or joints (e.g., hip replacements), and cochlear implants. Following such surgeries, medical professionals provide guidance on maintaining health and adjusting to the lifestyle changes associated with these artificial body parts.

The term "orthosis" or "orthotic" refers to external support provided to a limb or body part, whereas a "prosthesis" replaces the missing or lost part. For instance, an artificial leg is classified as a prosthesis, while a splint used to support a leg is considered an orthosis.

Results and discussion

Biomedical engineers play a crucial role in the creation and enhancement of artificial body parts and prosthetic limbs, which aim to improve the quality of life and functionality for individuals who have experienced limb loss. Each prosthetic is meticulously designed to meet the specific requirements of the individual in need.

Engineers are instrumental in transforming society by effectively solving real-world problems through the utilization of technology. They employ scientific and mathematical principles to advance various fields and contribute to the development of numerous products that are integral to modern life. Biomedical engineers specifically apply their expertise in science, medicine, and mathematics to address medical challenges. They are involved in the design of machinery and equipment for medical diagnosis, as well as the creation and improvement of artificial body parts and prosthetic limbs. Prosthetics, in particular, utilize artificial limbs to enhance the lifestyle and functionality of amputees. Each prosthetic is custom-designed to cater to the unique needs of the individual.

Prosthetic limbs are constructed using a range of materials, including plastics and metals. The reasons for requiring prosthetic limbs vary, with some individuals being born without limbs,