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Emerging Future Technologies of Ai in Current World

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Abstract: *This paper express about the future innovative technologies of AI with real time example of AI robot-Sophia. Some of the technology of AI is examined in day-to-day aspect. AI robotic plays an extra ordinary role and interacts with the peoples. Future view of AI also discussed AI system have involved in regular use economic, medical, engineering and the military , video games and so on.*
Keywords: *Artificial Intelligence, Medical, Humanoid, robot, Cameras.*

I. Introduction

Artificial Intelligence is the development of computer systems that are able to perform tasks that would require human intelligence. Artificial Intelligence is an approach to make a computer, a robot, or a product to think how smart human think. AI is a study of how human brain think, learn, decide and work, when it tries to solve problems. And finally this study outputs intelligent software systems. The aim of AI is to improve computer functions which are related to human knowledge, for example, reasoning, learning, and problem-solving.

II. Real Time Ai Robot

Sophia is a social humanoid robot established by Hong Kong based company Hanson Robotics. It was activated in the year of 2015. This AI robot was recognized as 1st ROBOT CITIZEN in the world of any country. It is able to display more than 62 facial terms. Sophia has been covered by media around the globe and has shared in many high-profile interviews. It can follow faces, sustain eye contact, and recognize entities. It is able to process speech and have conversations using a natural verbal subsystem. Cameras within Sophia's eyes shared with computer algorithms allow her to see.

III. Current Ai Technologies

3.1. Speech Recognition:

Every day, more and more systems are created that can transliterate human language, reaching hundreds of thousands through voice-response interactive systems and mobile applications. Companies offering speech recognition services contain NICE, Nuance Communications, Open Text and Verint Systems.

Fig.1.1 Speech Recognition

3.2. Virtual Agents:

A virtual agent is nothing more than a computer proxy or program capable of interacting with humans. The most common example of this kind of knowledge are chat bots. Virtual agents are at present being used for customer service and support and as smart home managers. Some of the companies that afford virtual agents include Amazon, Apple, Artificial Solutions, Assist AI, Creative Virtual, Google, IBM, IPsoft, Microsoft and Satisfi.

Fig 1.2 Virtual Agents

3.3. Machine Learning Platforms:

These days, computers can also easily learn, and they can be extremely intelligent Machine learning (ML) is a sub discipline of computer science and a branch of AI. Its goal is to progress techniques that allow computers to learn. By provided that algorithms, APIs (application programming interface), expansion and training tools, big data, applications and other machines, ML platforms are ahead more and more traction every day. They are presently mainly being used for forecast and classification. Some of the companies vending ML platforms include Amazon, Fractal Analytics, Google, H2O.ai, Microsoft, SAS, Skytree and Adext.

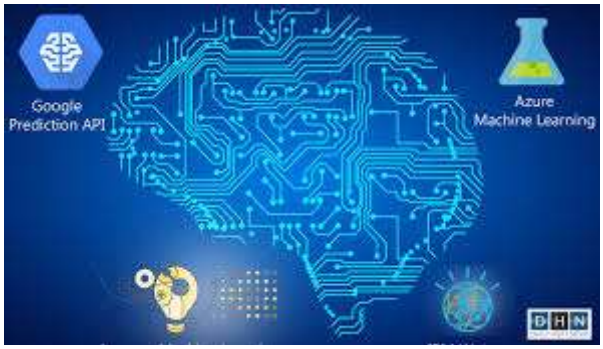

Fig 1.3 Machine Learning Platforms

This last one is mainly interesting for one simple reason: **Adext AI** is the first and only viewers management tool in the world that applies real AI and machine learning to digital publicity to find the most profitable audience or demographic group for any ad.

3.4. AI-Optimized Hardware

Through new graphic and central dispensation units and processing devices specifically designed and structured to execute AI-oriented tasks. And if you haven't seen them already, expect the pending appearance and wide receipt of AI-optimized silicon chips that can be inserted right into your portable devices and elsewhere. You can get access to this knowledge through Alluviate, Cray, Google, IBM, Intel, and Nvidia.

Fig 1.4 AI-Optimized Hardware

3.5. Deep Learning Platforms

Deep learning platforms use a exclusive form of ML that involves artificial neural circuits with various abstraction layers that can mimic the human brain, dispensation data and creating patterns for decision making. It is currently mostly being used to recognize patterns and classify applications that are only likeminded with large-scale data sets. Deep Instinct, Ersatz Labs, Fluid AI, MathWorks, Peltarion, Saffron Technology and Sentient Machineries all have deep learning options earnest of exploring.

3.6. Biometrics

This technology can recognize, measure and analyze human behavior and physical aspects of the body's structure and form. It allows for more natural relations between humans and machines, including interactions related to touch, image, speech and body language recognition, and is big within the market research field. 3VR, Affective, Agnitio, Face First, Sensory, Synqera and Tahzoo are all biometrics businesses working hard to develop this area.

Fig 1.5 Biometrics

3.7. Robotic Processes Automation

Robotic processes automation uses cursives and methods that mimic and automate human tasks to support corporate processes. It is principally useful for situations when transfer humans for a specific job or task are too expensive or inefficient. The good example is Adext AI, a platform that automates digital promotion processes using AI, saving businesses from offering hours to mechanical and repetitive tasks.

Fig1.6 Robotic Processes Automation

It's a solution that lets you make the most of your human talent and move staffs into more strategic and creative positions, so their actions can really make an impact on the company's evolution. Advanced Systems Thoughts, Automation Anywhere, Blue Prism, UiPath, and WorkFusion are other examples of robotic courses automation companies.

3.8. Digital Twin/AI Modeling

A digital twin is a software concept that bridges the gap between physical systems and the digital world. General Electric (GE), for example, is building an AI labor force to monitor its aircraft engines, locomotives and gas turbines and predict failures with cloud-hosted software models of GE's machines. Their digital twins are primarily lines of software code, but the most elaborate versions look like 3-D computer-aided design drawings full of interactive charts, diagrams, and data points.

Fig 1.7 Digital Twin/AI Modeling

Companies using digital twin and AI modeling technologies include VEERUM, in the capital project distribution space; Akselos, which is using it to guard critical infrastructure, and Supply Dynamics, which has advanced a SaaS solution to manage raw material sourcing in complex, highly distributed manufacturing environments.

3.9. Cyber Defense

Cyber defense is a computer network defense instrument that focuses on preventing, detecting and providing timely responses to attacks or threats to substructure and information.AI and ML are now being used to move cyber defense into a new evolutionary phase in comeback to an increasingly hostile environment: Breach Level Index perceived a total of over 2 billion breached records during 2017. Seventy-six percent of the records in the examination were lost accidentally, and 69% were an identity theft type of breach.

Fig 1.8 Cyber Defense

Recurrent neural networks, which are capable of processing arrangements of inputs, can be used in combination with ML techniques to create managed learning technologies, which uncover suspicious user activity and detect up to 85% of all cyber attacks. Startups such as Darktrace, which pairs communication analytics with advanced mathematics to automatically detect abnormal behavior within organizations and Cylance, which spread over AI algorithms to stop malware and mitigate damage from zero-day attacks, are both working in the area of AI-powered cyber defense.

4.0. Emotion Recognition

This technology allows software to "read" the emotions on a human face using advanced image processing or audio data processing. We are now at the point where we can capture "micro-expressions," or understated body language cues, and vocal intonation that betrays a individual's feelings. Law enforcers can use this technology to try to detect more information about someone during interrogation. But it also has a wide range of applications for marketers. There are increasing numbers of startups working in this area.

Fig 1.9 Emotion Recognition

Beyond Verbal analyzes audio inputs to describe a person's character traits, including how positive, how excited, angry or temperamental they are. N Viso uses emotion video analytics to inspire new produce ideas, identify upgrades and enhance the customer involvement. And Affectiva's Sentiment AI is used in the gaming, automotive, robotics, education, healthcare industries, and other fields, to apply facial coding and sentiment analytics from face and voice data.

IV. Conclusion

In the up-coming decades, world may turned into the robotic and it will be part of entertainment, education, healthcare, home-services, space adventure, transportation occupied by robotics and they are ruled by humans like us. So we can conclude the artificial human brain which an incredible artificial thinking power.

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