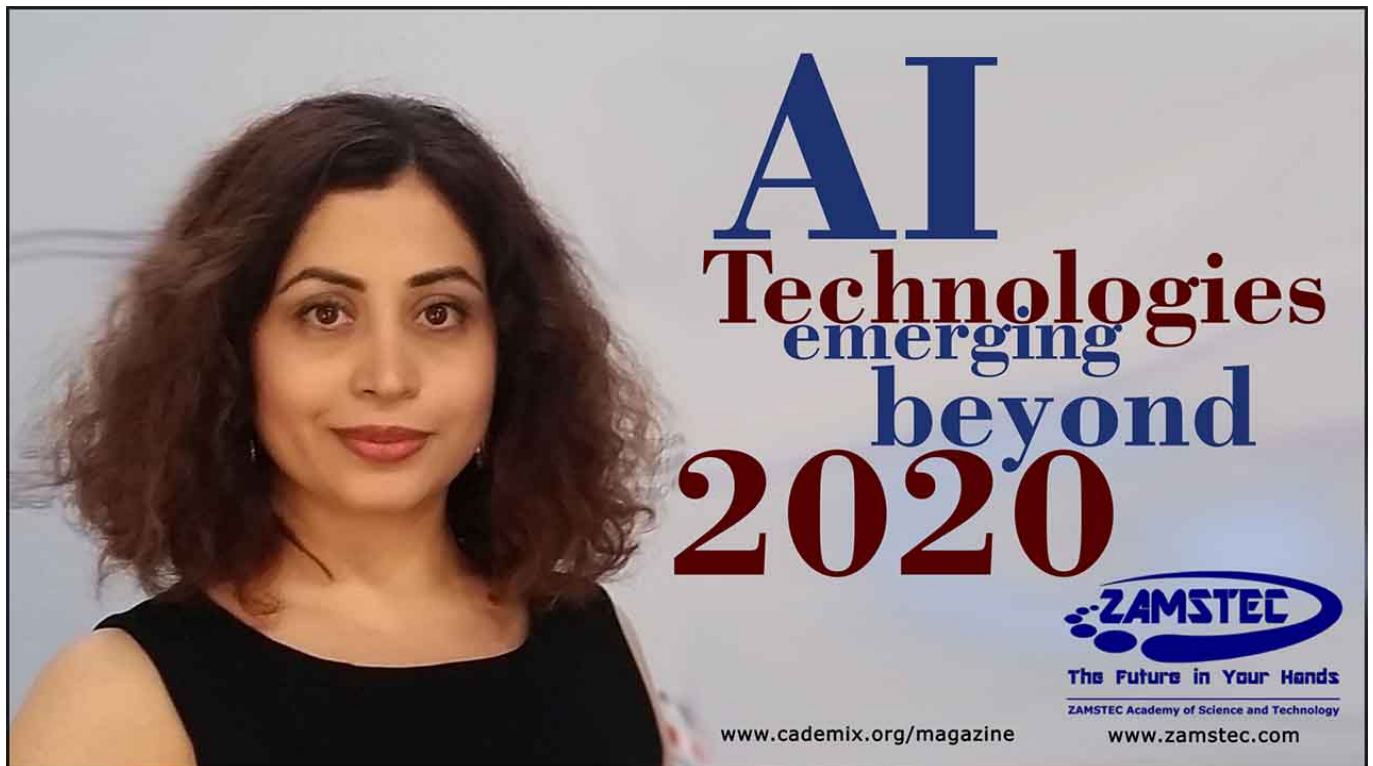Estimated Reading Time: 7 minutes

AI Technologies emerging beyond 2020

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This article describes the AI Technologies emerging beyond 2020. It also includes latest AI technologies, Gartner Hype Cycle, types of AI and industrial hints for digital transformations.

As of 2020, there is a healthy and thriving market for artificial intelligence (AI) technologies. We should thank to global awareness and the significant increase in investment and adoption by businesses. Beyond the hype and increased media attention, the numerous startups and internet giants are racing to acquire them. According to a survey published by Forbes, the AI is already used by more than 30 percent of large enterprises in 2016. This mainly includes the basic usage of AI for voice recognition, image processing, analytics, process automation management and marketing. On paper this statistics has already grown to 60% by 2018 and 80% by 2020. What does it mean for you? It simply means that whether you know or not some of your colleagues or business partners are already users of one or more AI Technologies.

"Artificial Intelligence" is a term coined in 1955 to define a new sub-discipline of computer science. Today, a variety of technologies and instruments are included, sometimes tested, or sometimes emerging and relatively new. The business owners and policy makers need a comprehensive understanding of the major technologies, so that they can consider a tool to support human decision-making.

What are the types of AI?

The degree to which an AI system can replicate the human capabilities is used as the criterion for determining the types of AI. Therefore, they are categorized into multiple types of AI. It depends on how a machine compares with humans in terms of versatility and performance. Under such a system, an AI that can perform more human-like functions with equivalent levels of competence will be regarded as a more advanced type of AI. In contrast, a simpler and less advanced type would be considered an AI that has limited functionality and performance.
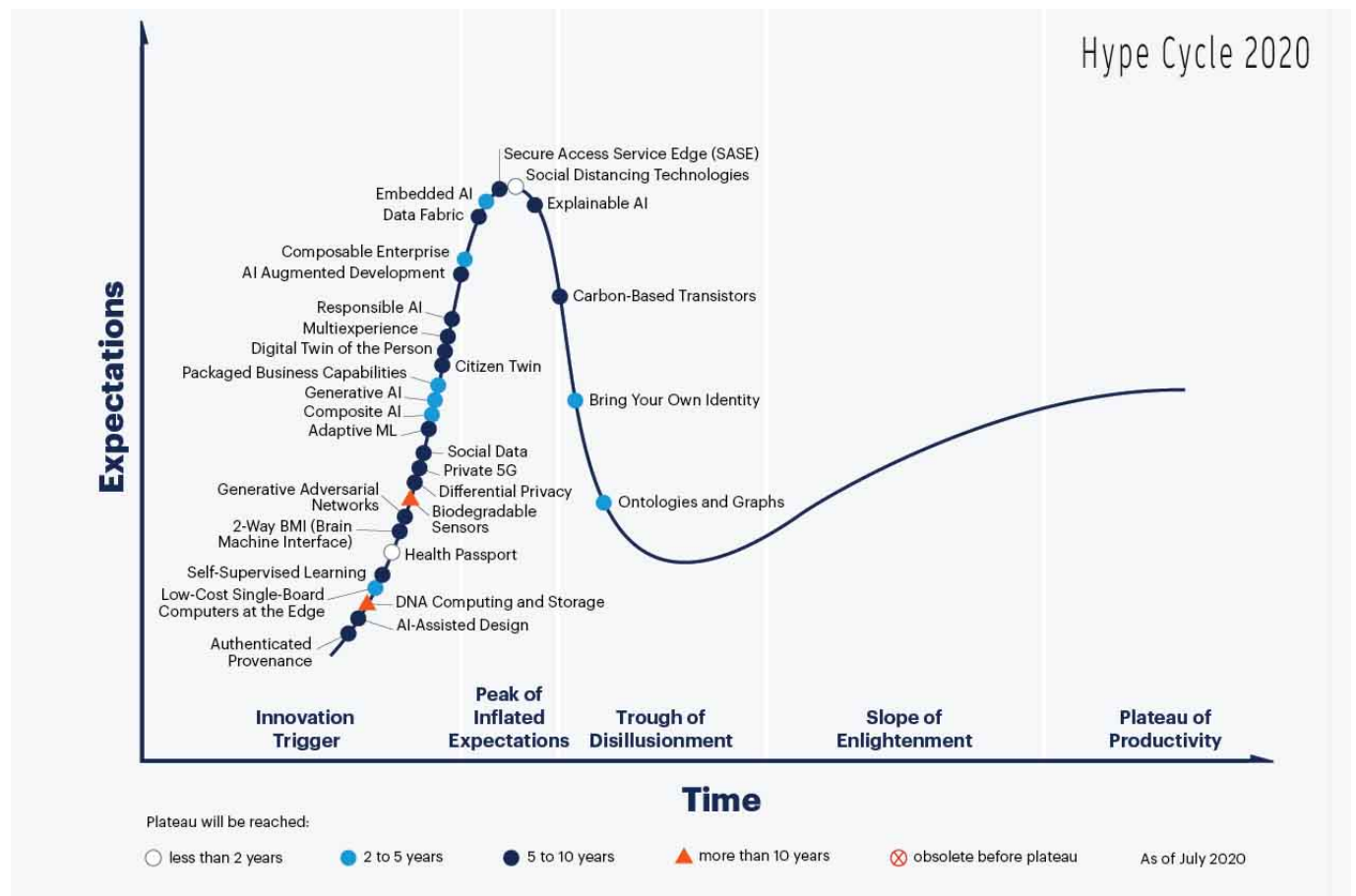
"Reactive AI" is the simplest form of intelligence that has no memory. Basically, the machine uses a certain algorithm or logic to mimic a human decision making and responds to specific inputs. "Limited Memory AI" uses a memory to learn and improve its responses. The whole idea of Machine Learning Applications are in this category. "Theory of Mind" are those AI tools and concepts which are still under development, and they understand the needs of other intelligent entities. Finally the "Self Aware" AI has a human-like intelligence and self awareness which is another conceptual technology that can ultimately compete with the human mind. This type is the main source of fear for those naysayers against the AI, and is very inspiring for those creating sci-fi stories.

Alternatively one can categorize the AI into three groups: 1) Artificial narrow intelligence (ANI), which has a narrow range of abilities; 2) Artificial general intelligence (AGI), which is on par with human capabilities; or 3) Artificial superintelligence (ASI), which is more capable than a human. This method of categorization is mainly used for specific tasks and capabilities, to compare the power of a specific tool with those of a human.

AI Technologies emerging beyond 2020

There are thousands of technologies and trends that make bold promises. But how can we judge them and understand what is commercially viable ? and more important is when we should expect real results of those new technologies with bold promises? The Gartner's Hype Cycles provide a graphical representation of the maturity and adoption of technologies and applications. It is a very powerful tool to decide whether and when a technological promise is hype or reality. The methodology of the Gartner Hype Cycle gives us a view of how a technology or application will evolve over time.

From the 30 emerging technologies featured in Gartner's Hype Cycle 2020, nine of them are directly related to artificial intelligence and machine learning. However most of these AI technologies are currently in the initial "Innovation Trigger", they will be all accessible before 2030. These are the names every tech entrepreneur, job seeker and professional should remember:

1. Generative adversarial networks
2. Adaptive machine learning
3. Composite AI
4. Generative AI
5. Responsible AI

6. AI-augmented development
7. Embedded AI
8. Explainable AI
9. AI-augmented design

By nature, emerging technologies are disruptive, but the competitive advantage they provide is not yet well known or market proven. It will take most of them more than five years, and some more than 10 years, to reach the Productivity Plateau. But in the near term, some Hype Cycle technologies will mature and technology innovation leaders need to understand the opportunities for these technologies , especially those with transformative or high impact.

AI transform Industries

AI Technologies and tools are continuously growing and the adoption of them is gaining momentum. Industries have been looking for AI-powered applications to assist them in their digital transition. There are many companies, particularly smaller ones, that are unable to measure the benefits of the implementation of AI. Sometimes, it is very difficult to get an overview of the small gradual changes that have happened over the previous years. The fact is that the AI is slowly disrupting some of the well established industries. Here are the top industries influenced by AI.
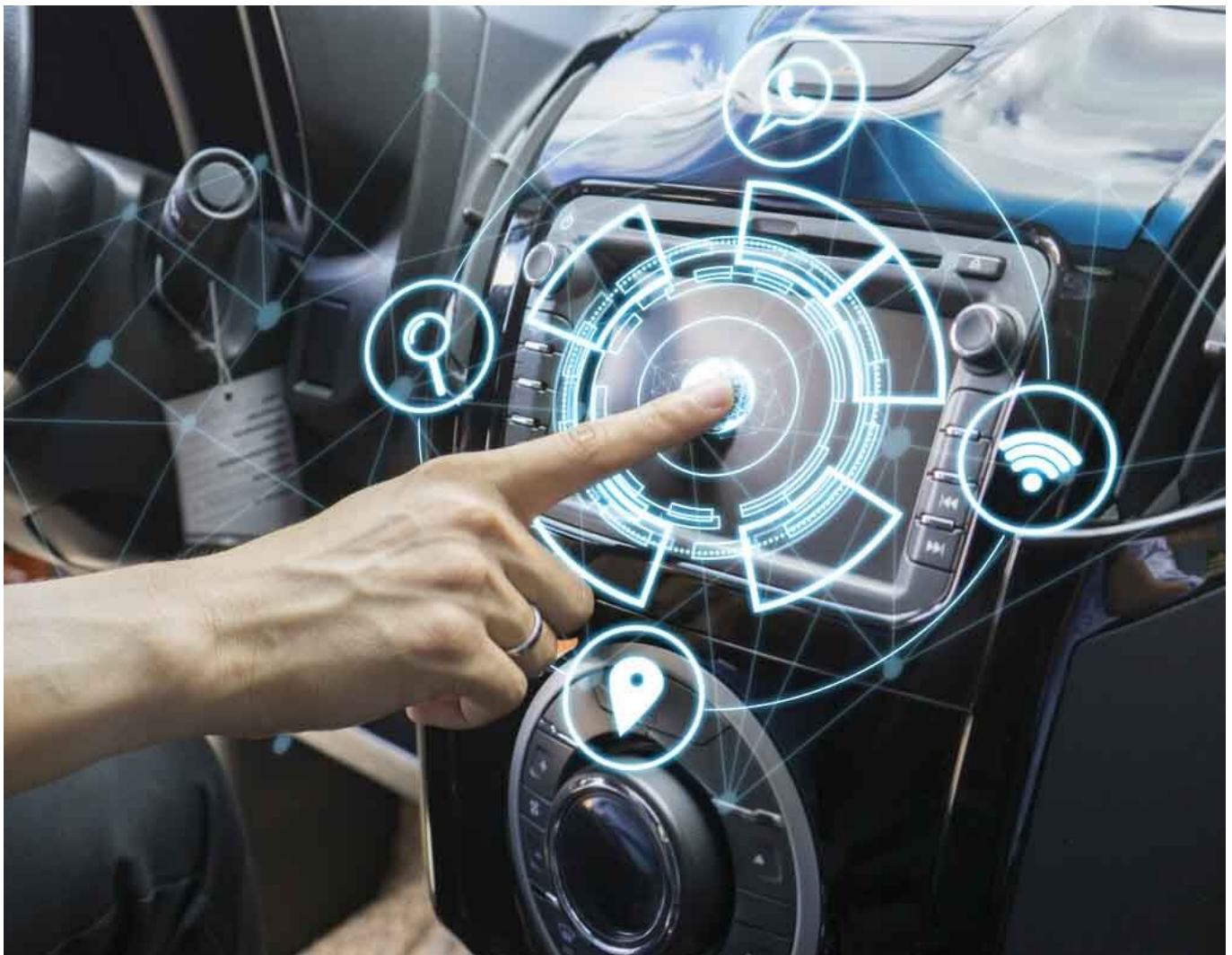
- Education and Trainings
- Career development and Job Placement
- Business Intelligence
- Marketing and Sales Automation
- Engineering services and consulting
- Software and Cloud computing
- Virtual agents and assistants
- Healthcare and medical engineering

- Cyber Security and safety
- Manufacturing and construction
- Entertainment Industry
- Smart Cities and infrastructure
- Tourism, Gastronomy and Hotels
- Retail and supermarkets
- Supply chain management

Are you ready for a digital transformation?

It doesn't matter whether you are a recent graduate, a professional or a business owner. You are responsible to make sure you can safely navigate your career and business. The AI Technologies emerging beyond 2020 are what you need to consider. You are the captain of your Career. Therefore, you need to make sure that you can safely navigate your ship through the storm. There is a saying that For very big ships, there is no safe harbor. You need to have the experienced captain on board, a mentor and coach who can guide through the ups and down of the upcoming storm. Indeed, there are tech academies and institutes that not only offer tech knowledge. They may also offer strategic decision making and consulting to support you with business decisions.
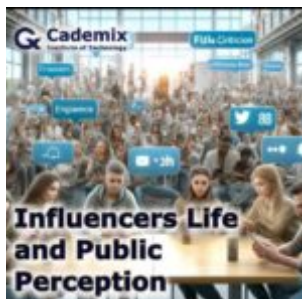

Related Keywords

Machine-learning, Artificial-intelligence, Big-data, Deep learning, Intelligent Systems, Neural Networks, Data

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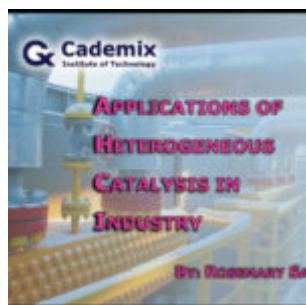
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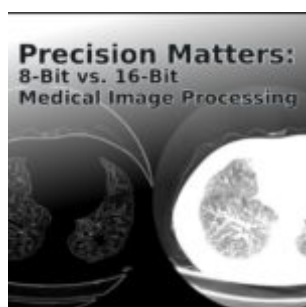

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Career Development
Stages

CEF Level	IELTS exam	Cambridge Exam
C2	7.5 +	CPE
C1	6.5 – 7	CAE
B2	5 – 6	FCE
B1	3.5 – 4.5	PET
A2	3	KET

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