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**Machine learning, artificial intelligence and big data are transforming the world around us. How can these influence engineering?**

**Machine learning:**

Machine learning is a growing technology that makes it possible for computers to learn autonomously from historical data. It uses a variety of techniques to create mathematical models and make predictions based on previous information or data. Currently, it is utilized for many different things, including suggestions systems, email filtering, Facebook auto-tagging, image identification, and speech recognition.

At a broad level, machine learning can be **classified into three types:**

- 1. Supervised learning**
- 2. Unsupervised learning**
- 3. Reinforcement learning**

**Artificial Intelligence (AI):**

Artificial intelligence is one of the rapidly developing fields of computer science that is poised to usher in a new era of technological advancement through the development of intelligent machines. Through AI, we can make machines mimic human work ethics. Artificial intelligence is now pervasive in our world. It is currently engaged in a wide range of subfields, from the general to the specialized, including self-driving cars, chess play, theorem proving, music performance, painting, information deductions, etc.

**Big Data**

The newest term in the IT industry is "BigData." The top Big Data platform is Apache's Hadoop, which is used by IT giants Yahoo, Facebook, and Google. Big Data refers to extremely large-scale data. We often work with data sizes of MBs or, at most, GBs, but big data, or data with a petabyte i.e.  $10^{15}$  size, is a different story. According to some estimates, the last three years have witnessed the generation of about 90% of today's data.

**Engineering Prospects**

**Mechanic Learning:**

Engineers' management of designs and product development is significantly impacted by machine learning. Machine learning tools have the potential to, or are now having an impact on, their entire workflow from task definition to job application.

**Artificial Intelligence (AI):**

One of the biggest advantages of Artificial intelligence is the use of inferencing rules. By using these rules, we can get new knowledge from the extracted information. This can help engineers from explicitly finding all the useful information through AI. A research witnessed that about 60% of workload was lifted from engineers.

**Big Data:**

Big data could be extremely helpful for businesses to increase their scalability, profitability, and efficiency. But without a big data engineer to create systems to gather, maintain, and extract data, a company's big data can be difficult to maintain. Therefore, big data engineers are ultimately responsible for assisting businesses in managing their huge data.