Machine Learning

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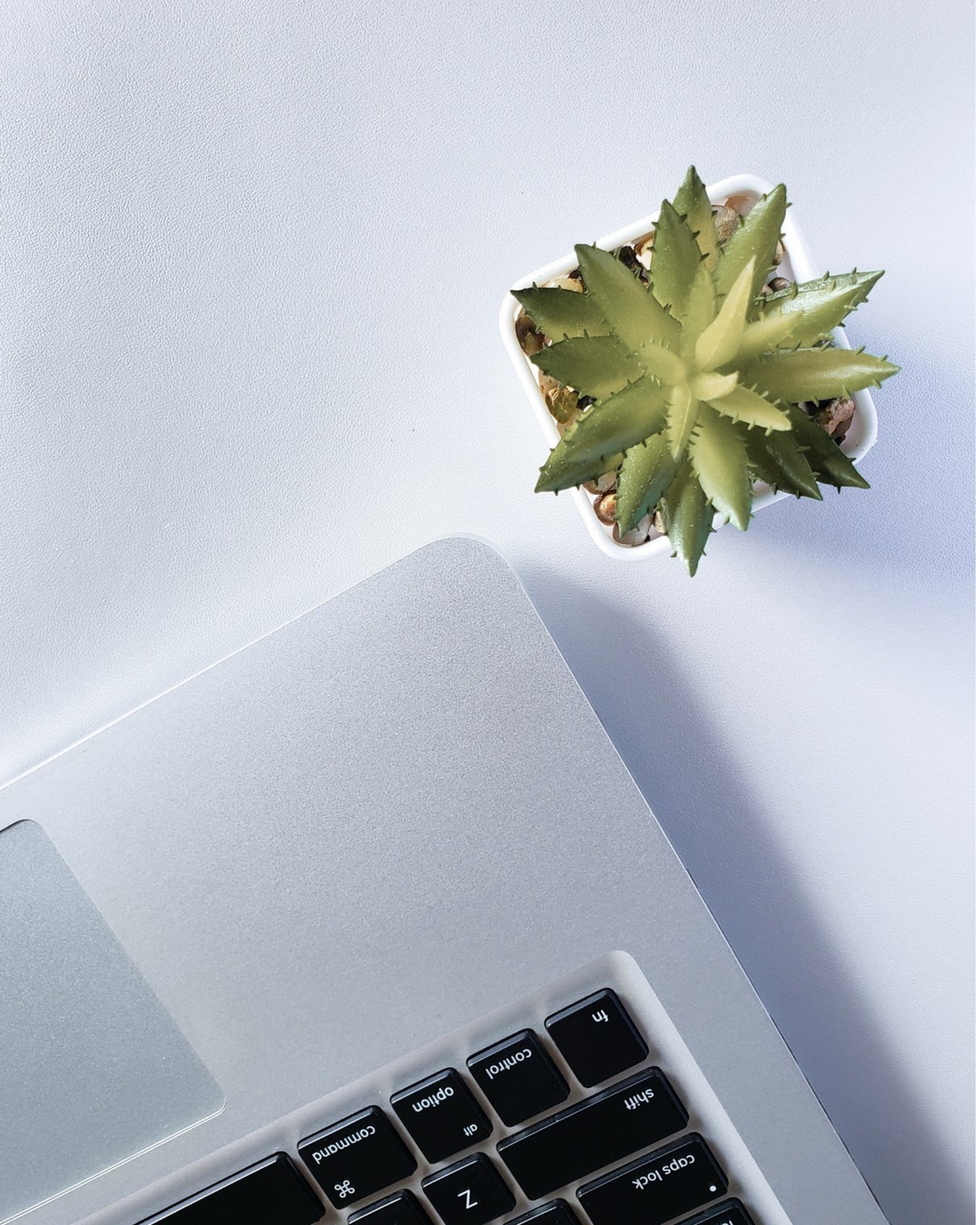
What is machine learning?

- Machine learning is a method of data analysis that automates analytical model building. It is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention.



Evolution of machine learning

- Machine learning today is not like machine learning of the past
- It was born from pattern recognition and the theory that computers can learn without being programmed to perform specific tasks; researchers interested in artificial intelligence wanted to see if computers could learn from data.
- The iterative aspect of machine learning is important because as models are exposed to new data, they are able to independently adapt. They learn from previous computations to produce reliable, repeatable decisions and results.

Examples of machine learning applications

+ The heavily hyped, self-driving Google car?
+ Online recommendation offers such as those from Amazon and Netflix?
+ Knowing what customers are saying about you on Twitter?
+ Fraud detection?

Different types of machine learning

Supervised learning

Supply algorithms with labeled training data and define the variables to assess for corrrelations

Unsupervised learning

Involves algorithms that train on unlabeled data. The algorithm scans through datasets looking for any meaningful connection

Semi-supervised learning

Feed an algorithm mostly labeled training data, but the model is free to explore the data on its own and develop its own understanding of the data set

Reinforcement learning

Complete a task and give it positive or negative cues as it works out how to complete a task.

Why is machine learning important?

- Machine learning gives enterprises a view of trends in customer behavior and business operational patterns, as well as supports the development of new products. Many of today's leading companies, such as Facebook, Google and Uber, make machine learning a central part of their operations. Machine learning has become a significant competitive differentiator for many companies.

References

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