

MACHINE LEARNING

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Machine learning(ML) is a branch of artificial intelligence(AI) that automates analytical model building allowing computers to improve their characteristics based on the experience gained. The computer can “understand it yourself” using data for constant optimization. The more data, the smarter the artificial intelligence becomes. One of the major advantages of machine learning is that the computer can be trained to automate tasks that would be exhaustive or impossible for a human being[3].

Machine learning lies at the intersection of computer science, engineering, and statistics and often appears in other disciplines. It can be applied to many fields from politics to geosciences. It’s a tool that can be applied to many problems. Any field that needs to interpret and act on data can benefit from machine learning techniques[1].

There are many ways to frame this idea, but largely there are three major recognized categories:

- **supervised learning.**

When reading data from the algorithm already has the correct answer.

- **unsupervised learning.**

The algorithm in the learning process does not have predefined answers.

- **reinforcement learning.**

This type of learning is a mixture of the supervised learning and unsupervised learning[2].

Where does the machine learning apply?

Traffic Alerts (Maps)

Now, **Google Maps** is probably **THE** app we use whenever we go out and require assistance in directions and traffic. The other day I was traveling to another city and took the expressway and Maps suggested: “*Despite the Heavy Traffic, you are on the fastest route*“[2].

Social Media (Facebook)

One of the most common applications of Machine Learning is **Automatic Friend Tagging Suggestions** in Facebook or any other social media platform. Facebook uses **face detection** and **Image recognition** to automatically find the face of the person which matches it’s Database and hence suggests us to tag that person based on DeepFace[2].

Products Recommendations

Suppose you viewed the goods on the site. The next day, you look at Facebook and suddenly you see an ad for the same subject. You switches to another application, and there you also see the same announcement. This happens because Google collects statistics of page views and then recommends advertising based on your history history.

Fraud Detection

Always when you conduct a transaction - the machine learning model analyzes the size of the transaction, device and purchase data, location. The system based on the behavior of the account in real time makes a judgment on whether the transaction is fraudulent.

References

1. Harrington P. Machine learning in action. Shelter Island, N.Y : Manning Publications Co., 2012. 354 p.
2. Keshari K. Top 10 Applications of Machine Learning : Machine Learning Applications in Daily Life. <https://www.edureka.co/blog/machine-learning-applications/>. URL: <https://www.edureka.co/blog/machine-learning-applications/>.
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