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Machine Learning Applications by Google

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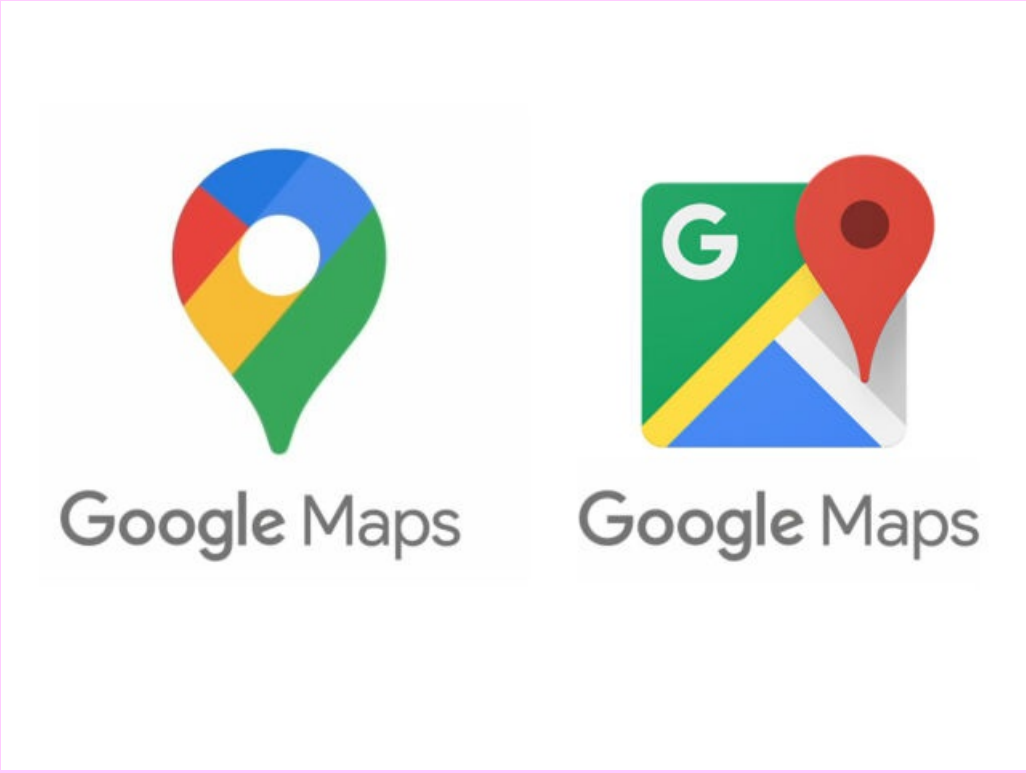
Machine learning is an area of artificial intelligence (AI) and computer science that focuses on using data and algorithms to mimic the way people learn, with the goal of steadily improving accuracy.

In the current age, everyone knows Google, uses Google and also searches for any information using Google. Yes, this article is about the most used applications of Machine Learning by Google.

Applications:

1. Google Maps:

If we require directions or traffic information, we are most likely to utilise Google Maps. \xe2\x80\x9cDespite the Heavy Traffic, you are on the Fastest Route,\xe2\x80\x9d Maps remarked to me while I was travelling to another city the other day. But how does it know that?



Google Maps incorporates predictive features \xe2\x80\x93 powered by machine learning \xe2\x80\x93 that will alert passengers well in advance if their buses will be delayed. It now offers real-time monitoring data that can predict traffic delays in hundreds of locations across the world.

Google created a model that used conventional traffic data and tweaked it to account for the unique characteristics of bus movements and routes. The researchers used real-time inputs from transit agencies to extract training data from sequences of bus locations over time and linked it to automobile traffic speeds on the bus\xe2\x80\x99s path during the journey.

2. Google Translate:

Google Translate has been around for ten years. Google Translate was initially introduced with

Phrase-Based Machine Translation as the primary algorithm. Later, Google developed further machine learning breakthroughs that permanently transformed the way we think about foreign languages.

The release of Google Neural Machine Translation, or GNMT, was the most significant advancement in translation systems. Its model architecture is made up of an encoder network (on the left) and a decoder network (on the right).

In classic cascade systems, an intermediate representation is necessary to represent speech. Unlike cascaded systems, Google proved with Translatotron that a single sequence-to-sequence model can directly translate voice from one language into speech in another without the requirement for intermediary text representation.

3. Gmail:

Since 2004, Gmail has been altering the way we think about email. According to Google, it has accumulated 1.5 billion users in that period. I\xe2\x80\x99m one of them, and there\xe2\x80\x99s a good chance you are, too.

The new deep learning scanner, according to Google, has been operational since the end of 2019. During this period, it has increased the daily detection coverage of Office documents containing malicious scripts by 10%. That\xe2\x80\x99s a big figure when you consider the enormous volume of papers Google scans on a daily basis. A figure that is much larger when you consider what the scanner excels at, namely \xe2\x80\x9cdetecting hostile, bursty assaults.\xe2\x80\x9d

4. Google Assistant:

Google has applied AI to the pocket-sized gadget by converting voice to text and utilising improvements in deep learning.

Google Assistant must be able to comprehend the human user in order to truly assist consumers with daily chores. This entails not just comprehending but also appreciating the significance of the words you use.

Google developers entirely rebuilt Assistant\xe2\x80\x99s NLU models in order to assist the tool in better grasping the context and improving its \xe2\x80\x9creference resolution,\xe2\x80\x9d or ability to discern the purpose behind a given query. This new improvement is based on machine learning technology developed in 2018 and applied for Google Search, which allowed comprehension of all sought terms in context rather than one phrase at a time.

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