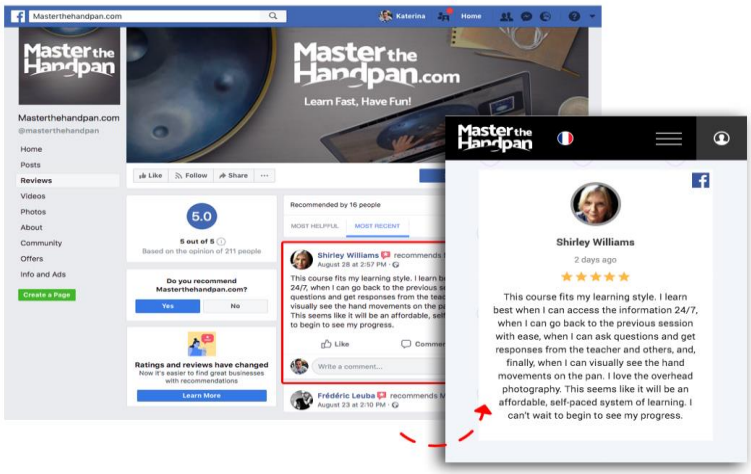
1. How and where is facebook using Machine Learning to improve user experiance?

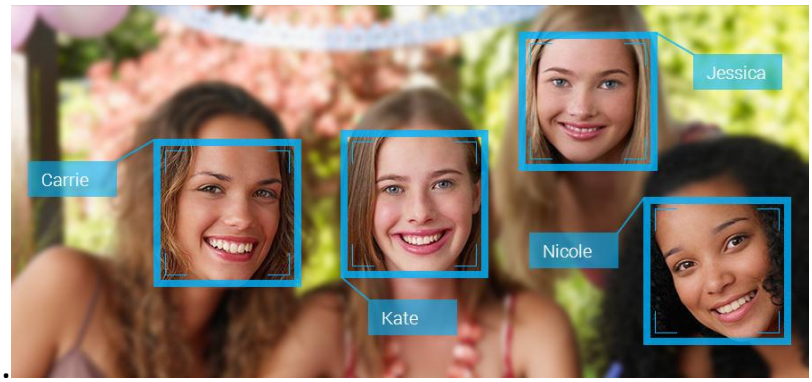
Machine learning is basically a subset of artificial intelligence that works on the data set provided to it. It is basically a method of teaching the machine to work as efficiently nevertheless more than a human. Machine learning is essential to Facebook. Facebook uses Machine learning in every aspect. Either you are scrolling the news feed or browsing the images or videos, you have been a part of seeing Artificial Intelligence(Machine learning). Facebook has huge amounts of data, it uses that data to train its machine learning model to know about a user more than the user sometimes know themselves , So it's safe to say that Facebook is actually not even a social network but a global phenomenon. And obviously, Machine Learning is a vital aspect of Facebook. It would not even be possible to handle 2.4 billion users while providing them the best service without using Machine Learning! But I'll list down the most prominent areas in which facebook is using machine learning.

- Translation is a good application of ML. Someone writes in native language, you can always see translation in a couple of different languages.

- Article recommendation is also a great ML exercise. Your entire feed is selected, scored for relevance before presented to you.

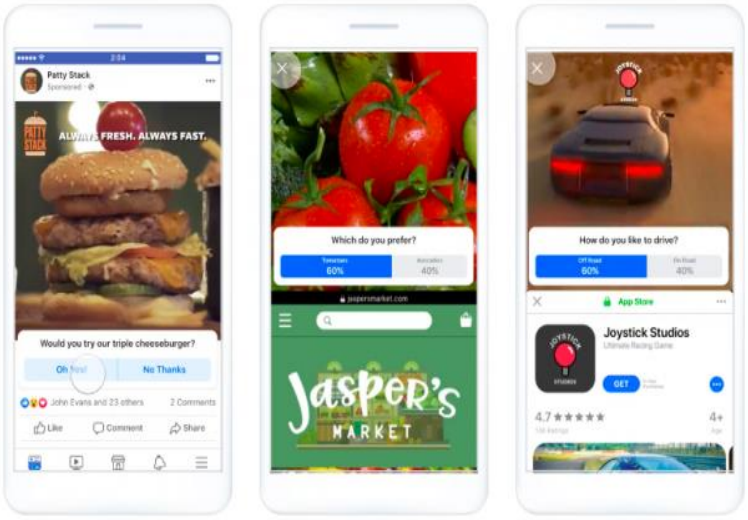


- Using the machine learning algorithm facebook is able to recognize users from tagged pictures and due to repetition of pictures ,facebook is able to recognize people in non tagged photos as well.



- Placing relevant advertisements is a good example. It fetches them revenue. The machine learning algorithm capitalizes on

the keywords that we search and then places or displays



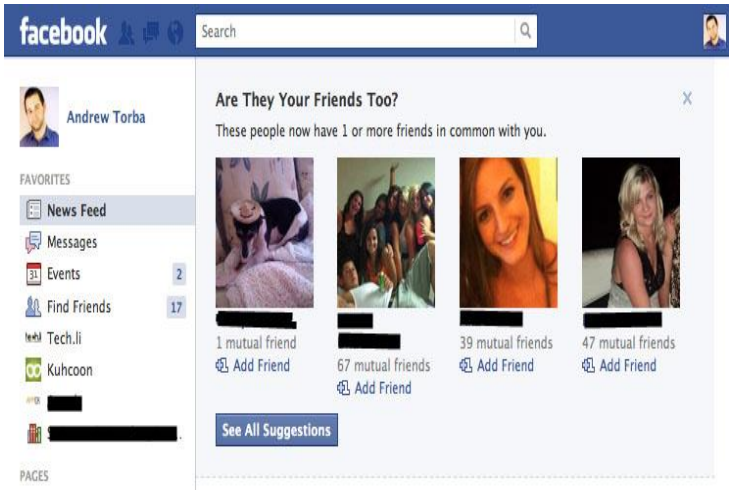
relevant ads.

- Identifying abusive online content and user accounts. This comes in the category of deep text, the machine learning algorithm identifies if the text is abusive or harmful through supporting sentences and texts.

- Identifying Best user who can make a post viral or popular in a particular area. This is done via flow analysis though.
- Now FB has different shades of emotions instead of just a like button. This way, using the machine learning algorithm, facebook can find a lot of things about user. Using this they can also find the people who mostly interact with the post and also the people who view them.
- Using machine learning facebook is able to recognize people who may be related to a user by going through the contact list

of the user or also through the user account of the people who live in the same area.

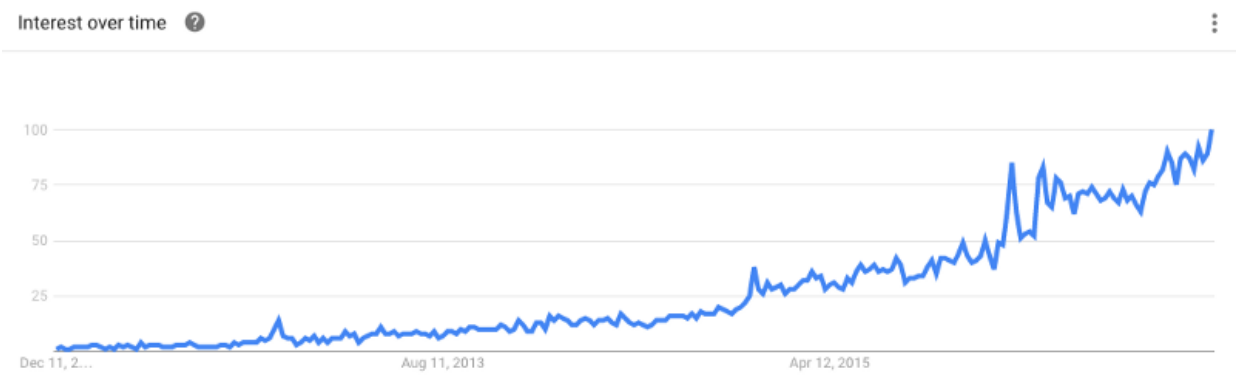
Facebook Places
Who. What. When. And now **where.**



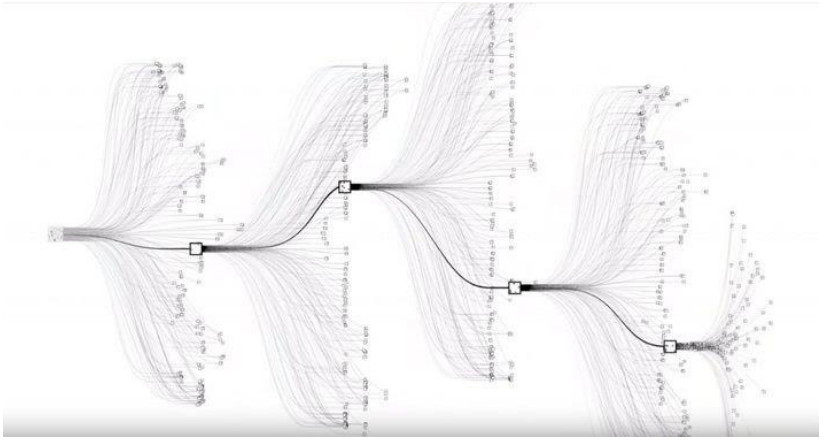
- Using machine learning facebook is able to know where its users are and if a particular picture is uploaded it tags them automatically knowing where they are .

- Using the machine learning algorithm , Mixing some geographic, census info and NLP of posts - FB can clearly identify issues faced by specific community etc. This can be of use to govt authorities.

2.How do you think deep learning can change the world and do wonders?



Deep learning is further a subset of machine learning . in simple forms it is an advanced form of machine learning in which we don't need to teach the machine , it basically learns itself using the enourmous amount of data that is provided . More coherently, Deep learning carries out the machine learning process using an artificial neural net that is composed of a number of levels arranged in a hierarchy. The network learns something simple at the initial level in the hierarchy and then sends this information to the next level. The next level takes this simple information, combines it into something that is a bit more complex, and passes it on the the third level.



Deep learning networks can be successfully applied to big data for knowledge discovery, knowledge application, and knowledge-based prediction. In other words, deep learning can be a powerful engine for producing actionable results . **THE biggest examples of how deep learning is changing the world would be [** In a word, accuracy. Deep

learning achieves recognition accuracy at higher levels than ever before. This helps consumer electronics meet user expectations, and it is crucial for safety-critical applications like driverless cars. Recent advances in deep learning have improved to the point where deep learning outperforms humans in some tasks like classifying objects in images**]** Automated cars, aerospace and defense ,medical research, electronics etc. But it doesn't end here. There are companies that are taking this initiative further and they are developing softwares and applications using deep learning that have never been registered before. For example

ViSENZE develops commercial applications that use deep learning networks to power image recognition and tagging. Customers can use pictures rather than keywords to search a company's products for matching or similar items.

Skymind has built an open-source deep learning platform with applications in fraud detection, customer recommendations, customer relations management and more. They provide set-up, support and training services.

Atomwise applies deep learning networks to the problem of drug discovery. They use deep learning networks to explore the possibility of repurposing known and tested drugs for use against new diseases.

3. What is your dream AI project that can become into reality and can have a commercial value. Justify your answer.

My dream AI project is a smartphone that I want to develop for the visually impaired people. Now to explain my project I'll break it down into two parts as the visually Impaired people fall into two categories.

1) The first category is people who have blurry eye vision due to visual impairment . These people are unable to see clearly , so the smartphone that I want to develop will be able to help these people understand what's on the screen. For example if a person is seeing some pictures my machine will able be able to express the emotions in the pictures in verbal form , the color in the pictures, the people in the picture basically an insight in the real world. The thing to remember here is that visually impaired people like these can to some extent see what's on the screen but not clearly so my machine will help them make out what's around them.

2) The second category is the people that I would want to focus on mostly. People who are blinded due to visual impairment. My machine will help them have an insight into the new world. This smartphone will have a chat box fixed in it. so, it will be able to speak off the cuff. For example: when the smartphone will turn on it will greet the user and then it will ask the user what they want to do or if they want to see what's happening around him, after the users consent it will open the camera and tell the user what's happening around him. The emotions of the people around him, what's placed around him. Also due to the chat box, the user will be able to ask the phone to open the social media apps and tell him what's happening in the world or probably ask the machine to read the newspaper etc and basically provide them any guide necessary(reading text that is hand written , giving directions while walking, recognizing people around the user, asking if they want to set any reminders for events and so on).

Commercial value:

The main idea behind building this project is to cater to the needs of the masses who want to see or let alone feel or hear what's around them . It's an established fact that many scientist are already working on building an artificial eye but the technology as well as the procedure is an expensive one and not everyone will be able to afford it. So ***,my smartphone will be an affordable resource due to the advanced techniques of machine learning to build a chat box and complementing it with an artificially advanced smartphone*** , as compared to the expensive procedure and it will be a great resource for the ***285 Million*** people who are visually impaired in the world at the moment of writing this.