

# HOW Google

# IS USING

(Machine learning)





Machine learning is a core, transformative way by which we're rethinking how we're doing everything. We are thoughtfully applying it across all our products, be it search, ads, YouTube, or Play. And we're in the early days, but you will see us—in a systematic way – apply machine learning in all these areas.

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– Sundar Pichai, Google CEO





## HOW GMAIL IS USING ML?

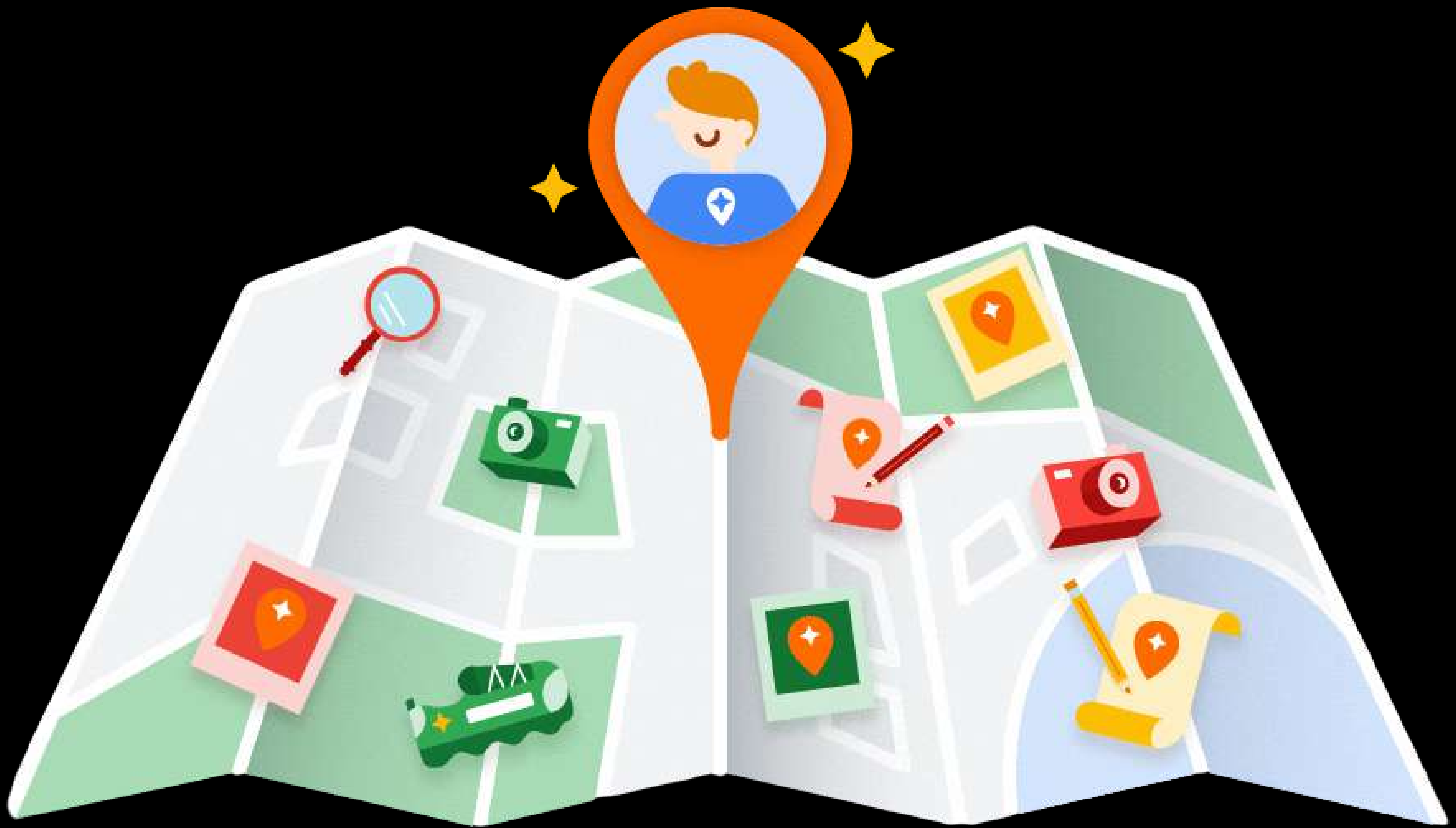
- Do you know how the mails in Gmail are categorized as social, promotional or primary and how the emails are labeled, this is where the machine learning comes in.
- Smart Reply and smart compose uses machine learning to automatically generate replies to emails or predict the next words while you composing the mail.





## HOW GOOGLE SEARCH IS USING ML?

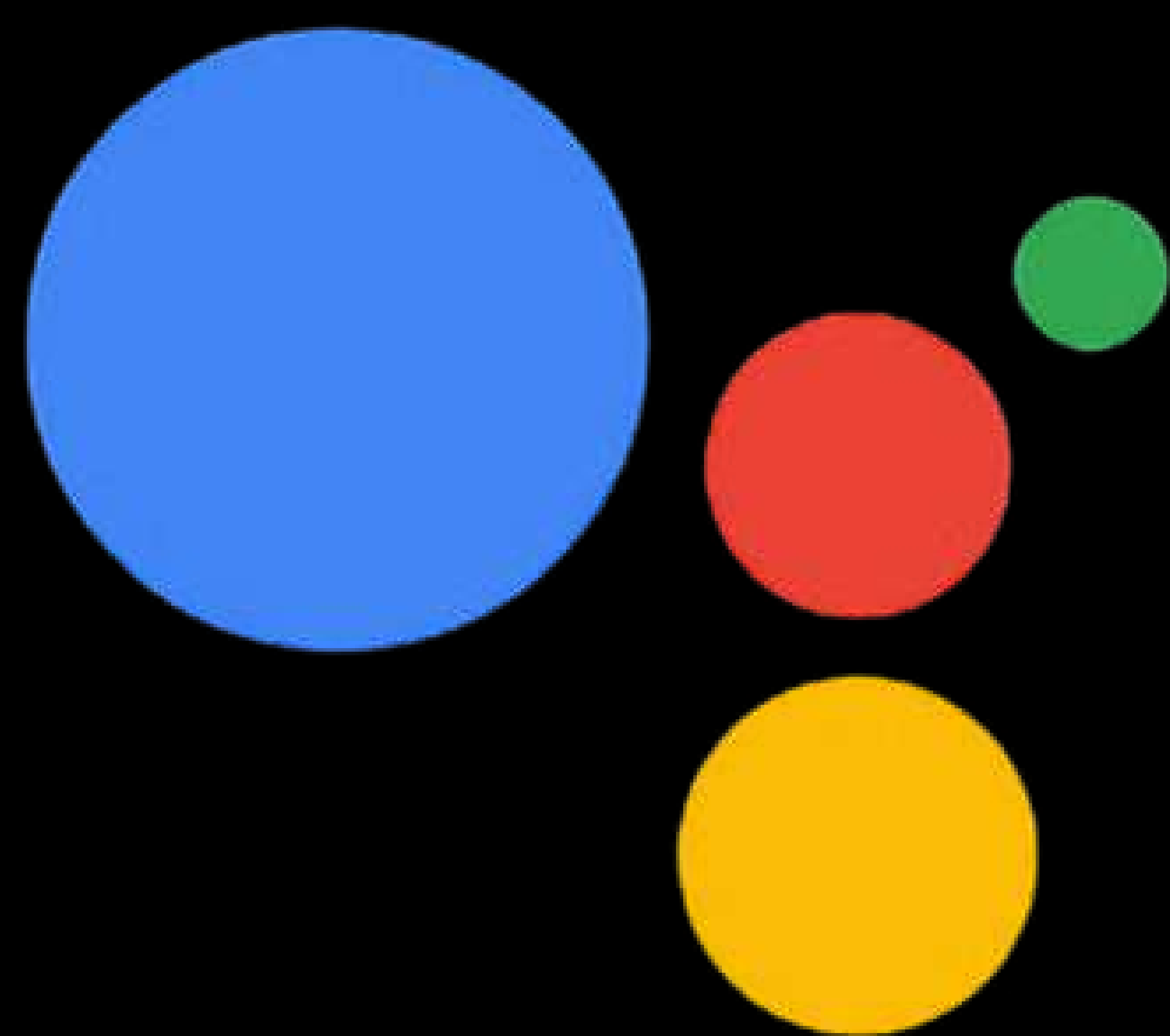
- When you start typing in the search box it automatically anticipates what you are looking for.
- It then provides suggested search terms for the same based on your previous activity and location.
- The intelligent machine behind google search is RankBrain.



## HOW GOOGLE MAPS IS USING ML?

- Google gets all the real-time data on bus locations and forecasts it in a real time.
- So, now you don't have to wait long hours for your bus.
- Mapping Building Outlines in Google Maps
- Finding Most Popular Dishes in Restaurants





Hi, how can I help?

## HOW GOOGLE ASSISTANT IS USING ML?

- It is basically a personal assistant that is enabled using a combination of Google Knowledge Graph, Image Recognition, and Natural Language Processing.
- Google Knowledge Graph provides information gathered from various sources while Natural Language Processing allows the Google Assistant to interact with you and formulate its answers according to your questions.



## HOW GOOGLE TRANSLATE IS USING ML?

- It can translate text, speech, images, sites, or real-time video from one language into another.
- It is true that it is not 100% accurate yet but it gives a general meaning to make the understanding less complex.
- All this is possible because of Statistical Machine Translation (SMT).
- This is a process where computers analyze millions of existing translated documents from the web to learn vocabulary and look for patterns in a language.





## HOW GOOGLE PHOTOS IS USING ML?

- It automatically creates albums of photos taken during a specific period without any input from you.
- And that's not all, it can also select the “best photos”.
- You can also find photos using their search with names like dog, beach etc...





## HOW DEEPDREAM IS USING ML?

- It uses convolutional neural networks to find random patterns in various images and amplifies them in different ways.
- These images can be tweaked in any possible manner using the input data and various parameters so that the results obtained can be funny, weird or even trippy.