
Artificial Intelligence In Every Day Life

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Introduction:

Technological developments have significantly advanced since the 1990's with more significant improvement in the way people perform different tasks (Frey and Osborne 2017). The concept of AI as an area of science was more close to fiction. However, the idea of AI is no longer a fiction but a reality that has become part of our daily lives. Therefore, 'machine learning' by use of neural networks that mimic the actual processes of the real neurons, AI allows machines to process complex data and provide accurate information (Iqbal et al. 2016). With the innovations and development of AI, it marks the golden age of AI. As a result, the AI has been the most advanced technology. Hence, it will dominate the focus of technology for many years. Notably, integration of AI technology has a great connectedness in improving the people's activities in their everyday life.

I. AREAS OF ARTIFICIAL INTELLIGENCE

A. Language understanding: The ability to "understand" and respond to the natural language. To translate from spoken language to a written form and to translate from one natural language to another natural language.

- a. Speech Understanding
- b. Semantic Information Processing (Computational Linguistics)
- c. Question Answering
- d. Information Retrieval
- e. Language Translation

B. Learning and adaptive systems: The ability to adapt behavior based on previous experience, and to develop the rules concerning on such experience.

- a. Cybernetics
- b. Concept Formation

C. Problem solving: Ability to formulate a problem in a suitable representation, to plan for its solution and to know when new information is needed and how to obtain it.

- a. Inference
- b. Interactive Problem Solving
- c. Automatic Program Writing
- d. Heuristic Search

D. Perception (visual): The ability to analyze a sensed scene by relating it to an internal model which represents the perceiving organism's "knowledge of the world." The result of this analysis is a structured set of relationships between entities in the scene.

- a. Pattern Recognition
- b. Scene Analysis

E. Modeling: The ability to develop an internal representation and set of transformation rules which can be used to predict the behavior and relationship between some set of real-world objects or entities.

- a. The Representation Problem for Problem Solving Systems
- b. Modeling Natural Systems (Economic, Sociological, Ecological, Biological etc.)
- c. Robot World Modeling (Perceptual and Functional Representations)

F. Robots: A combination of most or all of the above abilities with the ability to move over terrain and manipulate objects.

- a. Exploration
- b. Transportation/Navigation
- c. Industrial Automation (e.g., Process Control, Assembly Tasks, Executive Tasks)
- d. Security
- e. Other (Agriculture, Fishing, Mining, Sanitation, Construction, etc.)
- f. Military

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g. Household

G. Games: The ability to accept a formal set of rules for games such as Chess, Go, Kalah, Checkers, etc., and to translate these rules into a representation or structure which allows problem-solving and learning abilities to be used in reaching an adequate level of performance.

a. Particular Games (Chess, Go, Bridge, etc.)

APPLICATIONS OF ARTIFICIAL INTELLIGENCE

Email:

1-Spam Filters:

Your email inbox seems like an unlikely place for AI, but the technology is largely powering one of its most important features: the spam filter. Simple rules-based filters (i.e. “filter out messages with the words ‘online pharmacy’ and ‘Nigerian prince’ that come from unknown addresses”) aren’t effective against spam, because spammers can quickly update their messages to work around them. Instead, spam filters must continuously learn from a variety of signals, such as the words in the message, message metadata (where it’s sent from, who sent it, etc.). It must further personalize its results based on your own definition of what constitutes spam—perhaps that daily deals email that you consider spam is a welcome sight in the inboxes of others.

2- Smart Email Categorization:

Gmail uses a similar approach to categorize your emails into primary, social, and promotion inboxes, as well as labeling emails as important. We need some manual intervention from users to tune their threshold. When a user marks messages in a consistent direction, we perform a real-time increment to their threshold.” Every time you mark an email as important, Gmail learns. The researchers tested the effectiveness of Priority Inbox on Google employees and found that those with Priority Inbox “spent 6% less time reading email overall, and 13% less time reading unimportant email.”

Banking /Personal Finance:

1- Mobile Check Deposits

Most large banks offer the ability to deposit checks through a smartphone app, eliminating a need for customers to physically deliver a check to the bank. The vast majority of major banks rely on technology developed by Mitek, which uses AI and ML to decipher and convert handwriting on checks into text via OCR.

2- Fraud Prevention

How can a financial institution determine if a transaction is fraudulent? In most cases, the daily transaction volume is far too high for humans to manually review each transaction. Instead, AI is used to create systems that learn what types of transactions are fraudulent. FICO, the company that creates the well-known credit ratings used to determine creditworthiness, uses neural networks to predict fraudulent transactions. Factors that may affect the neural network’s final output include recent frequency of transactions, transaction size, and the kind of retailer involved.

3- Credit Decisions

Whenever you apply for a loan or credit card, the financial institution must quickly determine whether to accept your application and if so, what specific terms (interest rate, credit line amount, etc.) to offer. FICO uses ML both in developing your FICO score, which most banks use to make credit decisions, and in determining the specific risk assessment for individual customers.

Examples of Artificial Intelligence: Home

Social Networking

1 – Facebook

Facebook uses AI to recognize faces. When you upload photos to Facebook, the service automatically highlights faces and suggests tagging your friends. Facebook discusses the use of artificial neural networks - ML algorithms, which duplicate software for human brain design - recognition for facial recognition. The company has invested heavily in Facebook, not only Facebook, but also the face-commons acquisition of Facebook-like face-commence start-ups.

Facebook uses AI to personalize your newsfeed and ensures that you are watching the post you are interested in. And, particularly, interesting business ads are showing ads related to your interests. The best targeted advertising means that you are more likely to click on it and there is a possibility of purchasing something from advertisers-and when you do, Facebook gets paid. In the first quarter of 2016, Facebook and Google made 85% reservation in online advertising markets - of course for targeted advertisements.

In June 2016, Facebook announced the introduction of Deep text, an engine to understand the text, "A new AI that can understand text with human accuracy near thousands of post textbooks per second in more than 20 seconds." Deep remix is also used for automatic use, removing spam, Millions of comments on the post Further by popular public figures, to automatically identify and locate relevant information and post sales detect such material and the surface may be of interest to you.

2 – Pinterest

Pinterest's LENS tool uses AI to identify objects in images. Take a picture of that beautiful maple dining set at your friend's house using Pinterest's LENS tool, and its AI-driven feature will help find similar tables.

In some cases, you're even able to find the product's seller so you can purchase the item.

3 – Chatbots

Chatbots recognize words and phrases in order to (hopefully) deliver helpful content to customers who have common questions. Sometimes, chatbots are so accurate that it seems as if you're talking to a real person.

For example, the chatbot conversation in the image below shows AI being used to schedule a hairdresser appointment.

4 – Instagram

In 2012, Facebook acquired Instagram which identifies the contextual meaning of emoji using Machine Learning. Instagram can create, auto-suggest emojis and emoji hashtags by algorithmically identifying the sentiments behind emojis. This may seem that it is not deep and meaningful of Artificial Intelligence, but Instagram has seen there is great increase in use of emoji among all demographics.

4 – Snap chat

In 2015, Snap chat introduced facial filters, called Lenses, . These filters track facial movements, allowing users to add animated effects or digital masks that adjust when their faces moved.

Online Shopping

1 –Search

Amazon searches ("shopping clothes", "mobiles", "home appliances", etc.) return a list of the most relevant products related to your search very fast to you. Amazon actual did not share how it's doing this, but in a description of its product search technology, [Amazon notes](#) that its algorithms "automatically learn to combine multiple relevance features. Our catalog's structured data provides us with many such relevance features and we learn from past search patterns and adapt to what is important to our customers."

2 –Recommendations

Amazon uses a combination of User based collaborative filtering and item based collaborative filtering. the initial similarity measure is Pearson correlation however at the time of making listed recommendations the cosine similarity index is used.

You see recommendations for products you're interested in as "customers who viewed this item also viewed" and "customers who bought this item also bought", as well as via personalized recommendations on the home page, bottom of item pages, and through email. [Amazon uses artificial neural networks](#) to generate these product recommendations.

3 – Fraud Protection

For preventing frauds in online credit card transactions Machine learning get used. Square, a [credit card](#) processor popular among small businesses, charges 2.75% for card transactions, compared to 3.5% + 15 cents for card-absent transactions. Artificial Intelligence is deployed to not only prevent fraudulent transactions, but also minimize the number of legitimate transactions declined due to being falsely identified as fraudulent.

Mobile Use

1 –Voice-to-Text

A standard feature on smartphones today is voice-to-text. By pressing a button or saying a particular phrase ("Ok Google", for example), you can start speaking and your phone converts the audio into text. Nowadays, this is a relatively routine task, but for many years, accurate automated transcription was beyond the abilities of even the most advanced computers. Google uses artificial neural networks . Microsoft claims to have developed a speech-recognition system that can transcribe conversation slightly more accurately than humans.

2 – Smart Personal Assistants

A **virtual assistant** or **intelligent personal assistant** is a software agent that can perform tasks or services for an individual. Sometimes the term "chatbot" is used to refer to virtual assistants generally or specifically those accessed by online chat (or in some cases online chat programs that are for entertainment and not useful purposes). Virtual assistants are able to interpret human speech respond via synthesized voices.

Amazon's expansion is due to hardware and software on the following models.:

Alexa, a virtual assistant developed by Amazon, first used in the Amazon Echo and the Amazon Echo Dot smart speakers developed by Amazon Lab126. It is capable of voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, playing audiobooks, and providing weather, traffic, sports, and other real-time information, such as news. Microsoft has followed suit with Cortana, its own AI assistant that comes pre-loaded on Windows computers and Microsoft smartphones.

Conclusion

In conclusion, artificial intelligence has substantially improved on people's lives in different ways, and people are not the same as before the introduction of AI. As discussed above, implementation of AI has led to time-saving which in turn has led to increased output from the businesses and day to day human activities. Moreover, development of AI has directed to the reduced human effort, computerized methods, automated transport system and involvement in dangerous jobs. Evidently, AI has dramatically influenced the people's lives and done wonders to help in the automation process of almost all their activities. Much of these methods take a lot of time and manual labor to complete. With AI automation of these processes will contribute a lot to the actual activities of the people and industries and enable moving forward.

Reference Books

- Patrick Henry Winston, Artificial Intelligence, Third Edition, Pearson Education
- Dan W. Patterson, Introduction to Artificial Intelligence And Expert Systems, PHI.
- American Association for Artificial Intelligence, Expert Systems, <http://www.aaai.org/AITopics/html/expert.html> -- an on-line index of materials, including tutorials on the subject. Highly recommended as a starting point for readings on the subject.
- https://medium.com/@the_manifest/16-examples-of-artificial-intelligence-ai-in-your-everyday-life

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