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FDS Assignment.2

Industries 1.0 to 5.0

Industry 1.0 : Industries were advancing since 18th century. It enabled mass production of goods with most of the water and steam powered engines. The Industrial revolution started with Industry 1.0. Development of Steam Engine revolutionized the economy.

Industry 2.0 : It was the second industrial revolution. The electric powered machines were more efficient than their steam-powered counterparts. Means of communication emerged with introduction of Telephone and Telegraph. Electric power systems introduced. With Industry 2.0 the production became fast and more stream-lined with electrification of production line.

Industry 3.0 : Industry 3.0 emerged in 1970s. The focus of industry 3.0 was on automation. The enablers in Industry 3.0 are computers, electronics and IT. Major innovations occurred in the field of electronics. Printed Circuit Boards (PCB), diodes, transistors, Integrated Circuits (ICs) manufactured. Development of computer system started and people started using programming languages. Furthermore, IT industry evolved.

Industry 4.0 : The enablers of Industry 4.0 are cyber physical systems. Factories are using Artificial intelligence in their operation. There is significant development of machine learning, deep learning, robotics, cloud and edge computing and storage systems. Internet of Things (IoT) is a major development of Industry 4.0. Industry 4.0 also enabled the emergence of smart factories. So, the use of robots and autonomous systems enabled smart manufacturing. Robots help in speeding up the manufacturing process. Emergence of big data is another factor affecting smart factories.

Industry 5.0 : Essentially, the Industry 5.0 could already be underway. Industry 5.0 is about robots helping people in manufacturing process. It could be human beings, intelligent systems and robots working together in the production process in order to customize the production of goods.

Green Information Technology

Green IT aims to minimize the negative impact of IT operations on the environment by designing, manufacturing, operating and disposing of computers and computer-related products in an environmentally-friendly manner. The motive behind green IT practices include reducing the use of hazardous materials, maximizing energy efficiency during the product's lifetime and promoting the biodegradability of unused and outdated products.

The concept of green IT emerged in 1992 when the U.S. Environmental Protection Agency launched ENERGY STAR, a voluntary labelling program that helps organizations save money and reduce greenhouse gas emissions by identifying products that offer superior energy efficiency. Other components of green IT include the redesign of data centers and the growing popularity of green networking.

Largest Social Media Websites.

1. **Facebook :** Facebook is the largest social media platform in the world. It has active user all over the world.
2. **Youtube :** Youtube is currently dominating the social media platform which comes under 2nd place. After Google it is another search engine for better understanding.

3. **Whatsapp :** There are many such messaging and texting apps but whatsapp dominates the world when it comes to texting people all over the world.
4. **Instagram :** Instagram is video and photo sharing platform and is mostly popular among youngsters.

Sigma Technologies

Sigma Technologies combines a strong local presence with global reach – "Local Drive, Global Strength". Goal is to get sustainable growth with satisfied customers and employees. At sigma technologies we get to work in a respectful environment where both managers and co-workers are treated equally in a friendly manner. You can develop your career at the forefront of technology, helping the customers to develop and improve new and existing products, fulfilling the company aim of making technology usable.

Data Science case Study - Problem Solving statement

Case Study 1 : Text Emotions detection

Use Case: A human can express his emotions in any form, such as the face, gestures, speech and text. The detection of text emotions is a content-based classification problem. Detecting a person's emotions is a difficult task, but detecting the emotions using text written by a person is even more difficult as a human can express his emotions in any form.

Recognizing this type of emotion from a text written by a person plays an important role in applications such as chatbots, customer support forum, customer reviews etc. So you have to train a machine learning model that can identify the emotion of a text by presenting the most relevant emoji according to the input text.

Case Study 2 : Hotel Recommendation System

Use Case: We all plan trips and the first thing to do when planning a trip is finding a hotel. There are so many websites recommending the best hotel for our trip. A hotel recommendation system aims to predict which hotel a user is most likely to choose from among all hotels. So to build this type of system which will help the user to book the best hotel out of all the other hotels. We can do this using customer reviews.

For example, suppose you want to go on a business trip, so the hotel recommendation system should show you the hotels that other customers have rated best for business travel. It is therefore also our approach to build a recommendation system based on customer reviews and ratings. So use the ratings and reviews given by customers who belong to the same category as the user and build a hotel recommendation system.

Case Study 3 : Customer personality Analysis

Use Case: Customer Personality Analysis is a detailed analysis of a company's ideal customers. It helps a business to better understand its customers and makes it easier for them to modify products according to the specific needs, behaviours and concerns of different types of customers.

You have to do an analysis that should help a business to modify its product based on its target customers from different types of customer segments. For example, instead of spending money to market a new product to every customer in the company's database, a company can analyze which customer segment is most likely to buy the product and then market the product only on that particular segment.

Summary

So these three data science case studies are based on real-world problems, starting with the first; Text Emotions Detection, which is completely based on natural language processing and the machine learning model trained by you will be used in training an AI chatbot. The second use case; Hotel Recommendation System, is also based on NLP, but here you will understand how to generate recommendations using collaborative filtering. The last use case; customer personality analysis, is based on someone who wants to focus on the analysis part.