Front-end developers create visually nice and user-friendly interfaces that makes our interaction with the websites better. The industry will continue to adapt discovering new tools and frameworks to deliver innovative and nice websites to users around the world.

MACHINE LEARNING ALGORITHMS

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Machine-learning and big data are closely related, because machine learning algorithms require big data to work, so that you can make patterns and make accurate predictions. In fact, the more data available for analysis by the machine learning algorithm, the more accurate the predictions will be.

Big Data Big data consists of various amounts of structured and unstructured data, that are generated by organizations, devices, and other sources daily. This data can income from different sources, such as social networks, sensors, transaction records, etc.

Data sources

•Social media platforms like Twitter, Facebook, Instagram, and LinkedIn

•E-commerce websites like Amazon, eBay, and Alibaba

•IoT (Internet of Things), such as smartwatches, fitness trackers, and home automation systems

•Finance organizations like banks and companies that see credit cards

•Organizations for the protection of health, such as medical and medical centers

•Public and private transport systems, such as airlines, travel arrangements, and public transport organizations

•Internet search engines like Google and Bing

•Weather monitoring systems, such as satellites, radars, and weather stations

•Powers establish such as the Bureau of the Census of Population and the Ministry of Pratsi

•Online gaming platforms and software Machine learning algorithms

Machine learning algorithms are designed to analyze and interpret this data, identifying hidden patterns and trends that may not be obvious to humans. By processing large amounts of data, these algorithms can make predictions and provide insights that can help organizations make more informed decisions and improve their operations.

Machine learning types Semi supervised learning: This is a type of machine learning that involves training a model on a small amount of labeled data and a large amount of unlabeled data. The goal is to use labeled data to learn about patterns and structures in the data, and then apply that knowledge to unlabeled data.

Supervised learning: This is a type of machine learning where the model is trained on labeled data, that is, data that is already labeled with correct answers. The goal is for the model to learn to accurately predict the correct output when given new, unknown data.

Unsupervised learning: This is a type of machine learning where the model is trained on unlabeled data, i.e. data that is not labeled with any correct answers. The goal is for the model to learn patterns and structures in the data on its own, without any guidance, and use that knowledge to discover hidden ideas or relationships.

Reinforcement learning: This is a type of machine learning where an agent learns to make decisions by interacting with the environment and receiving rewards or punishments for its actions.

The goal is for the agent to learn the best course of action to maximize its reward.

Anomaly Detection Learning: This is a type of machine learning that aims to identify rare events or outliers in a data set. The model is trained on a large amount of normal data and then learns to identify any data points that are significantly different from the norm. This type of training is commonly used in fraud detection, cyber security, and other applications where it is important to identify unusual behavior.

Libraries Keras is a high-level neural network API written in Python that can run on top of TensorFlow, CNTK, or Theano. It allows rapid prototyping and supports both convolutional and recurrent neural networks. Keras is known for its convenience, ease

of use, and rapid development of deep learning models.

PyTorch is an open source machine learning framework developed by Facebook's AI research lab. It is based on the Torch library and supports dynamic computational graphics, making it easy to create and debug models. PyTorch is popular for its flexibility, speed, and simplicity.

Scikit-learn is a popular Python machine learning library designed for simple and effective data mining tools. It provides a variety of machine learning algorithms such as classification, regression, clustering, and dimensionality reduction. Scikit-learn is known for its ease of use, intuitive API, and powerful data preprocessing and visualization capabilities.

TensorFlow is an open source machine learning platform developed by Google. It is designed to build and train deep learning models and supports both CPU and GPU computing. TensorFlow has a large community, provides extensive documentation and tutorials, and supports multiple languages and platforms.

Useful links for practicing in machine learning

TensorFlow Hub - https://tfhub.dev/s?module-type=text-embedding

TensorFlow datasetsn https://github.com/tensorflow/datasets/tree/master/tensorflow_datasets/datasets

Guide - https://www.tensorflow.org/hub/tutorials/tf2_text_classification?hl=en

Google Collab - https://colab.research.google.com/

RESEARCH AND COMPARISON OF MODERN JAVASCRIPT SOLUTIONS FOR WEB APPLICATION DEVELOPMENT

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No one thought about optimizing the speed of the enterprise and scaling the web applications when Internet and statistical sites appeared. Aims and tasks facing developers were very different for today then at that time. But with the development of web technologies and the spread use of the Internet, there was a need for libraries and frameworks that can provide developers with: high speed, flexibility, simplicity, and