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CS 370

4-2 Project One

Explain

Artificial intelligence approaches such as neural networks educate computers to evaluate data in the same manner that the human brain does. Deep learning is a kind of machine learning that uses linked neurons in a layered method to simulate the organization of the human brain. I shall start with the input layer (jdelacruz, 2020). This collects input values like an image's pixels. The intermediate layer, also known as the hidden layer, connects to the first layer of neurons in the network. Hidden neurons' outputs are sent into the final layer (jdelacruz, 2020).

Evaluate

Neural networks, which are utilized in deep learning and artificial intelligence software, are very useful for improving machine learning. As a consequence of neural networks and software advances, this technology may be applied to tackle real-world problems. A neural network is a group of algorithms that, like the brain, seek to identify hidden connections within a piece of data using an equivalent technique (Artificial Neural Networks Applications and Algorithms, n.d.). This specific use of neural networks leads in the development of neuron clusters, which may or may not be real.

The data given to the input layer might range from an image to a list of numbers. The next level of information transmission is made up of neurons, which comprise the hidden levels. Every neuron in a deep layer receives input from neurons below it and utilizes that knowledge to do mathematical problems. Following that, it transmits the outcomes of this procedure to the neurons in the layer underneath it.

Even as input becomes more complex, the neural network is always learning to identify patterns and build connections. When there is less of a difference between what was predicted and what transpired, the network adjusts the weights of the linkages connecting neurons. The training phase often includes feeding the network a large amount of tagged data and modifying the weights using an optimization approach such as back propagation. The output layer is responsible for determining what the network ultimately produces, which is generally a classification or regression result.

Analyze

Companies that deal with personal data are required by the General Data Protection Regulation (GDPR) to specify what personal data they want to handle and why. Companies that handle personal data must ensure that their practices are lawful in order to satisfy their reporting obligations (Mondschein & Monda, 2019). Organizations that deal with personal data must make it simple for individuals to exercise their rights. To ensure that the General Data Protection Regulation (GDPR) is obeyed, the appropriate safeguards must be in place when personal data is handled for research purposes (Mondschein & Monda, 2019). Personal data may be used for further research again, but only under the criteria outlined in the previously discussed General Data Protection Regulation (Mondschein & Monda, 2019). In this context, it is critical to consider how research systems are becoming larger and more intricate, as well as the implications for uniformity issues (Mondschein & Monda, 2019). The primary purpose of the rules is to ensure that any negative consequences on other persons or groups that may result from the processing of personal data are borne by the company undertaking the processing (Mondschein & Monda, 2019).

 On the basis of the accountability mode, the General Data Protection Regulation (GDPR) operates, which implies that every organization or company is required to take responsibility for the protection of personal data (Mondschein & Monda, 2019). The General Data Protection Regulation (GDPR) places a significant emphasis on the topic of acceptability (Mondschein & Monda, 2019).

Purpose limitation: This principle must be followed in order to ensure the privacy and accuracy of personal information (Mondschein & Monda, 2019). In certain circumstances, data security mandates that breaches be disclosed to the proper authorities and the individuals whose data is being safeguarded (Mondschein & Monda, 2019). This is in addition to putting in place appropriate technological and organizational measures. The concept of openness says that data can only be used for a specific reason that must be made clear to the person whose data it is (Mondschein & Monda, 2019).

Storage limitation: This notion states that controllers must specify how long data will be retained before it is deleted (Mondschein & Monda, 2019). In the case of study, Article 89 GDPR permits for limited exceptions if the circumstances outlined in the article are satisfied (Mondschein & Monda, 2019).

This principle mandates that the integrity and confidentiality of personal data be protected (Mondschein & Monda, 2019). Data security necessitates proper technological and organizational measures, as well as reporting of breaches to the supervisory authority and data subjects in specific situations (Mondschein & Monda, 2019). Data must not be utilized for any activity that harms the personal image or without prior notice. To safeguard data privacy, the General Data (Mondschein & Monda, 2019) Protection Regulation (GDPR) outlines the required security measures that must be implemented by all organizations and businesses that provide services in or outside the European Union (Mondschein & Monda, 2019).

Users are provided with a clear guide that explains how to keep their data secure and how it should not be utilized for any other data-selling activities (Mondschein & Monda, 2019). There is also an element of openness. Your personal information, such as your name, address, and medical history, will not be shared with anybody who is engaging in criminal activities (Mondschein & Monda, 2019). This contains all health-related information (Mondschein & Monda, 2019).

Assess

The European Union's General Data Protection Regulation (GDPR) protects personal information and identification. First, understand this rule (LLC et al., 2024). The reason limit also demonstrates how risky it is to utilize data for new features without the user's consent, which might result in a privacy violation (LLC et al., 2024). Methods of data collection are also being investigated since it is believed that collecting too much data may undermine the General Data Protection Regulation's (GDPR) objective of data reduction (LLC et al., 2024).

Keeping user data indefinitely violates the General Data Protection Regulation's (GDPR) data retention standards, making it difficult to comply. Despite these legal issues, data collection is critical to the success of the organization (LLC et al., 2024). If a corporation ceased collecting data, it would be difficult to deliver individualized experiences and targeted marketing, which are critical to their business strategy (LLC et al., 2024). Remember that obeying the GDPR does not imply that you must cease collecting data. It entails examining and altering the methods used to gather data (LLC et al., 2024). To comply with GDPR and continue its business strategy, the organization must gather data in a transparent, usable, and secure manner (LLC et al., 2024).

Propose Adaptations

Many of the things that are done now might need to be changed to fit GDPR rules. A very important step for the company to take is to start using new ways to connect (LLC et al., 2024). It is important to have privacy notices that are detailed, easy to understand, and give clear details about how data is gathered, handled, and used. Privacy screens and other interesting technologies may make it easier for users to change their data decisions and get more information (LLC et al., 2024). It's also important to follow the rules for making goals and reducing data. If you want more people to follow the rules, you might limit the information you collect to only what you need to reach your goals (LLC et al., 2024).

It is important to think about the social issues and follow the rules of the General Data Protection Regulation (GDPR) when using neural networks for customization. Businesses might be able to handle these problems by using AI in ways that protect users' privacy, putting user control first, and checking their processes for compliance regularly. In this age of data-driven technology, this approach not only lowers the risk of legal problems but also builds trust with customers, all while promoting a sustainable and moral business model.

Reference

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