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Section 2

 Deep learning algorithms extract high amounts of complex data sets as data representations. They do this through a hierarchal learning process. Complex abstractions are formulated by the processing’s advancement through the hierarchical system – taking what it learned from the previous, simpler level in the hierarchy and applies it to a new, larger set. Deep learning can identify complex patterns in large datasets, semantic indexing, data tagging, fast information retrieval, and simplifying discriminative tasks (1). Deep Learning algorithms are moving towards the automatic extraction of large and complex data representations at high abstraction rates. Artificial Intelligence is a key factor in deep learning, allowing for the hierarchal process to operate smoothly and approach large datasets using a hierarchal data approach that is continually growing towards mastering. Deep learning has also shown masterful results in several machine learning applications, including speech recognition, computer vision, and natural language processing. The four V’s based on Big Data characteristics are volume, variety, and veracity. Deep learning is most suited for issues relating to volume and variety (1). Yelp is using deep learning to process their images in their database better. Images are as important as reviews, and deep learning allows the company to better compile, categorize, and label images.

 In class, we have been learning how to extract data from a database source using coding manually. However, this is very strenuous and becomes increasingly strenuous, the more variables there are in the data. However, with AI learning, extracting and processing data would become much easier and require little to know human action. Thus, reducing error and the need for human involvement. The act of data extraction could now become less valuable with the emergence of deep learning, but only time will tell.

Works Cited

P. Domingos, P. Domingos, et al. “Deep Learning Applications and Challenges in Big Data Analytics.” *Journal of Big Data*, SpringerOpen, 1 Jan. 1970, link.springer.com/article/10.1186/s40537-014-0007-7.

Shewan, Dan. “10 Companies Using Machine Learning in Cool Ways.” *WordStream*, 2019, www.wordstream.com/blog/ws/2017/07/28/machine-learning-applications.