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ISM 1

19 November 2021

Research Assessment #11

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Subject: Neural Networks Tutorial

MLA citation(s):

“Deep Learning with Python, TensorFlow, and Keras tutorial.” *Youtube*, uploaded by Sentdex, 11 Aug. 2018, <https://www.youtube.com/watch?v=wQ8BIBpya2k>.

Assessment:

As discussed previously in all of my recent assessments and blogs, I am currently implementing machine learning and continue to strive to learn more about the program implementation and really strengthen my fundamentals in machine learning. I have also started my original work and will continue to document my research and projects to fulfill my goals of learning about deep learning. Hence, I reviewed a tutorial over deep learning. In fact, I was able to connect with more than half of the concepts as I already have a significant exposure to the different algorithms and the fundamental concepts of machine learning. Thus, during this tutorial, I was specifically interested in viewing some more program implementation about machine learning so that I can apply some of this new knowledge in my own original work. I found a video tutorial, “Deep Learning with Python, TensorFlow, and Keras tutorial,” which went over the step by step implementation of the theory that I already have learned over the past few weeks. Furthermore, now I feel much more confident as I have seen more program

implementation that specifically guides me through the exact order and process that facilitates machine learning which will help me in my projects.

After viewing the video tutorial, I was able to view and understand each of the steps. I was able to view the program implementation for separating training and testing data, then learn about the adding neural network flat and dense layers, as well as was able to view the entire training process (“Deep Learning with Python, TensorFlow, and Keras tutorial”). This helped connect with my knowledge of activation functions and layers in neural networks that work to process data and convert them into output. I also learned about the different methods in Jupyter notebook that could help me when I use the platform for creating models or projects from adding functions to the model to actually printing images and large data sets. In fact, the problem solution was over identifying letters from 0-9 using convolutional neural networks which also increased my knowledge of computer vision (“Deep Learning with Python, TensorFlow, and Keras tutorial”). This helped me view an example of computer vision and I was able to get more insight on how solving a computer vision problem works. This connects to my knowledge of using convolutional neural networks and how they flatten the data to process the data efficiently and predict with minimized loss. Furthermore, now I am more confident in creating my own neural network models for my original work using some of the same steps and logic behind the process.

I am currently developing my own projects that will utilize neural network algorithms such as ReLU and this will help me on the program implementation. I continue to strive to explore and implement the other types of neural network algorithms that facilitate natural language processing and computer vision as this has strengthened my understanding of the implementation of neural networks. This will also guide me as I implement machine learning

models that could create computer vision or natural language processing technology for my original work. I will continue to develop my own models and create projects through software platforms such as TensorFlow. This will allow me to achieve my goal of successfully implementing machine learning, more specifically deep learning and computer vision/natural language processing into real life applications in the future.