Your Assignment (there are three parts in this assignment)

Please read chapter 16 of the class textbook and practice the example programs given in the chapter to get a better understanding of the subject matter.

I. Write a paper explaining what is Deep Learning (DL)? How does it work? What does it do? Give at least one example of DL application.

* **Deep Learning is a system of layers of which acts in a way to mimic the human brain. Deep learning works with unstructured data such as text and images and automates the function of feature extraction. Deep learning is used heavily in photo recognition as it distinguishes features and can match photos to any number of categories.**

II. In a software development setting, typical developers will use a specific toolkit to control their software development environment. There are many toolkit options developers can implement to control the source code updates. One of the toolkits is called GitHub.

Write a paper and explain what is GitHub? How does it work? When do you use GitHub and why should you use GitHub? What are the advantages and disadvantages of using GitHub? If you do not have a GitHub account, apply one for yourself. If you have one already, then use your existing account. Learn how to use GitHub, preferably using command line. Corporate Industry perceive individual using GitHub through command line as professional compared to using GUI. Below are some of the links your instructor considered as helpful. You can also search you own sites.

Github link: <https://github.com/jlord/git-it-electron>

Download link <https://github.com/jlord/git-it-electron/releases>

Details of this tutorial: <http://jlord.us/git-it/>

* **Github is a cloud service that allows developers to store code. The code that is stored can be shared and manipulated by those with access and allows for tracking and controlling changes. Github can be used in collaborative. Github beyond a certain use case is a paid service and so utilization must meet the necessity.**
* **My Github link is** [**https://github.com/dsperlak?tab=repositories**](https://github.com/dsperlak?tab=repositories)

III. For this section, please visit the website link shown below. The website discusses and demonstrates building your first Convolutional Neural Network to recognize images:

<https://medium.com/intuitive-deep-learning/build-your-first-convolutional-neuralnetwork-to-recognize-images-84b9c78fe0ce>

You are required to do the following exercises, duplicate, and test the code:

a) Build your first Neural Network to predict house prices with Keras.

b) Intuitive Deep Learning Part 2: CNNs for Computer Vision

Both programs above have already been written. Please visit the website link at location <https://github.com/josephlee94/intuitive-deep-learning>.

Understand the program thoroughly. Your task is to duplicate, verify, and test the programs. You are required to implement your GitHub account to complete this section. Submit your GitHub URL within your Assignment document so that your instructor can evaluate your work. Make sure you modify the programs documentation to include your name and acknowledge the author by giving him credits. Failing to do so will lose a lot of points.

Write a Learning Report Summary (LRS)

Using Microsoft Word, write a summary report (not a bullet items) with a minimum of 100 words explaining how you completed your assignment. Please describe your responses, not just yes/no answers.

1. Did you successfully get your assignment done? Did it run? Any error? Did you get the correct result? Did you test your program thoroughly?

* **I believe my code is correct. It all ran without error. It was largely following a tutorial and only required minimal modification.**

2. How much time did you spend to complete your assignment?

* **These programs took 4 hours to follow along and code.**

3. Did you find the assignment easy or challenging for you?

* **The assignment was easy to follow along with although I feel anything outside its exact coding would be much tougher.**

4. Did you write the program yourself? Did you get any help from anyone?

* **The program was written by** [**https://github.com/josephlee94**](https://github.com/josephlee94)**. I modified it to correct for errors that I encountered**

5. When you encountered obstacles to complete your program, how did you resolve the issues? Did you use Google to get help? Describe how Google was abled or not able to assist you?

* **I did use Google. The code on the site was a bit out of date and certain libraries syntax had changed and required tweaking. I had to look these errors up.**

6. What did you learn from doing this assignment?

* **I learned the into ideas and coding behind creating a neural network to aid in deep learning.**

7. Any other information you would like to share with your instructor? Make sure you provide program output on each option.

* **Not too much, my program is based on the tutorial and only modified to correct for errors in code that likely are the result of syntax changes in the libraries. I have credited the author of the programs in both files and on this LRS.**