**Pattern Recognition in English (104-2)**

**Group Discussion Form (2016/06/07)**

|  |  |
| --- | --- |
| Name |  |
| Group Members |  |
| Topic | **Neural Networks (NNs)** |

Source: Neural Networks and Deep Learning, by Michael Nielsen, 2015. <http://neuralnetworksanddeeplearning.com/>

Question 1 (Chapter 1 Using neural nets to recognize handwritten digits)

Explain the **difference between gradient descent (GD) and stochastic gradient descent (SGD)**, and the **advantage** of SGD over GD. Also explain the relationship between **mini-batch** and SGD.

Ans:

Question 2 (Chapter 2 How the backpropagation algorithm works)

How can you describe the backpropagation algorithm with 3-5 sentences and without mathematical formulas? **Write down your descriptions**.

Ans:

Question 3 (Chapter 3 Improving the way neural networks learn )

**Dropout** is an effective technique to improve the learning of neural networks and deep neural networks. **Please explain what dropout is.**

Ans: