

**Deep Learning
Assignment 4
10 points**

1. [2 marks]

Briefly explain how dropout can be regarded as simulating an ensemble of neural network architectures.

2. [3 marks]

List three different methods for regularizing an autoencoder.

3. [2 marks]

What is the Energy function for these architectures?

- a. Boltzmann Machine
- b. Restricted Boltzmann Machine

Remember to define any variables you use.

4. [3 marks]

Briefly explain in words the difference between a Variational Autoencoder and a Generative Adversarial Network (GAN) (you may need to consult material outside the textbook)