Neural Networks for Pattern Recognition: Homework 02

I. MULTIPLE CHOICE / TRUE-FALSE

Select a choice **A** / **B** / **C**, etc., or indicate **TRUE** / **FALSE** for the following questions:

1. A Logistic Regression model (i.e. a simple 2-layer logistic Neural Network) is capable of learning complex combinations of logical functions AND, OR and NOT

2. A machine's capacity depends only on its number of input variables

3. The backward pass in a Neural Network is a prerequisite for the network's learning capability

II. WRITTEN

Watch the following 2 videos **Google's driverless car** and **its crude but pioneering granddaddy**, and briefly answer the following:

1. First, assume a simple self-driving system that takes only front-view images as input. How can one train the vehicle to automatically turn on the head lights when it's dark?

2. An autonomous car should be trained by many different drivers. Discuss why.

3. When should an autonomous vehicle automatically alert a front-sitting passenger to take control for increased safety?