Università della Svizzera italiana Facoltà di scienze informatiche

Machine Learning 2018

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## **Solution for Assignment 2**

## 1. Theoretical Probability

(5 Points)

Due date: 2/11 2018, 21:00pm

1. For P(X) to be a density function, it is necessary that  $\int x dx$ 

## 2. Simple Machine Learning Framework

(45 Points)

I implemented most of the framework but the weight updates seems wrong because the weights only change a little bit in the beginning and then remain constant.

The gradient may also not be correct because I was unable to implement the *check\_gradient* function correctly.

## 3. Handwritten Digit Recognition

(35 Points)

Unfortunately, I could not even start this exercise since Section 2 was not finished.