# Task 1.1. Supervised Learning: Standard Classifier

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## 1   Introduction

Given pictures from the world and been asked to classify them in several groups, we are faced with a problem of multi-class classification. One of the options would be to create N one-against-all binary classifiers.

$$Pr(w|\mathbf{x}) = Bern_w[\lambda] \tag{1}$$

However a better one involves using a categorical distribution to model our world.

$$Pr(w|\mathbf{x}) = Cat_w[\lambda[\mathbf{x}]] \tag{2}$$

## 2   Implementation