# DD2424 Deep Learning in Data Science

## Assignment 1 with bonus points

### 1. Introduction

The focus of this assignment is on **image classification** with ten possible classes. For this task, a **single-layer neural network** is trained using a “vanilla” implementation of the **mini-batch gradient descent** algorithm. The algorithm is applied to a cost function which computes the **cross-entropy loss** of the classifier applied to labelled training data and an *L2* regularization term on the weight matrix. The data set used is the CIFAR-10 collection of labelled images.

The toolset used for solving the assignment included default, built-in Python as well as the two external libraries *numpy* (for linear algebra purposes) and *matplotlib* (for plotting needs).