DLVC Assignment 1

Group 25

**1. What is image classification?**

Short: Answer to the question „What is shown in the image?”, generally image classification is the process of taking input data (in this case images) and outputting a class with or without a probability, that that class is shown in the image.

**2. Train, Validation and test datasets**

Training subsets of data is used to adjust the model / weights   
Validation sets are used to minimize overfitting, by ensuring that any increase of the accuracy while using the training subsets, also increases the accuracy on the validation set, whoch is not used for weight adjusting.  
Test set is used for testing purposes of the final model performance in order to get the predictive power/ performance.

**3. How do linear classifiers work?**

Linear classifiers find an optimal border between two classes in their feature-space. The prediction is done by finding out which half-plane of the feature map (devided by the border from the linear classifier) the observation belongs to.

**Results from the linear classifier:**