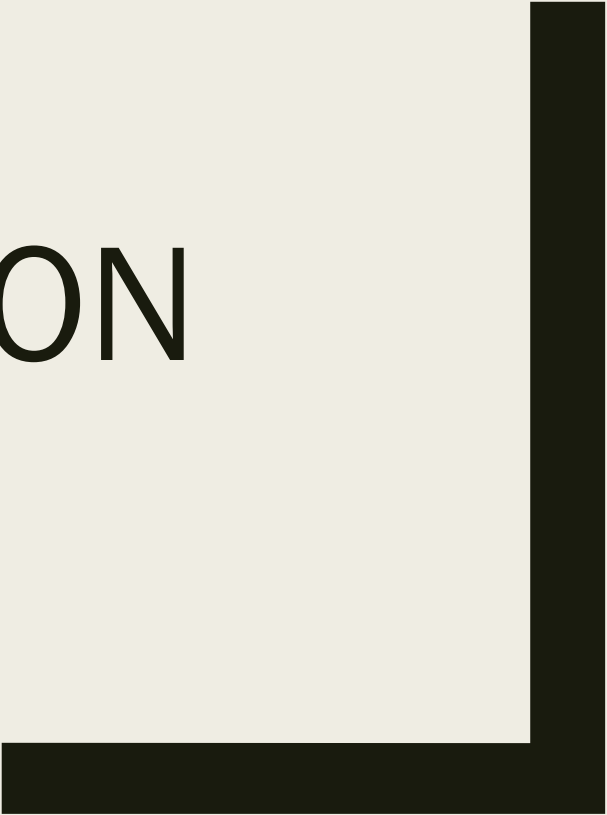


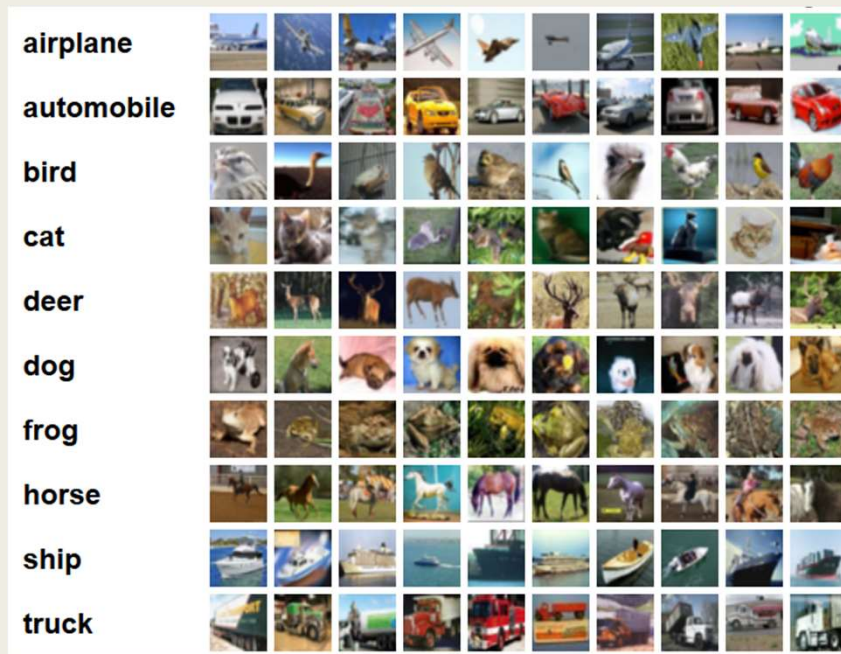


IMAGE CLASSIFICATION

Using CIFAR 10 DATABASE



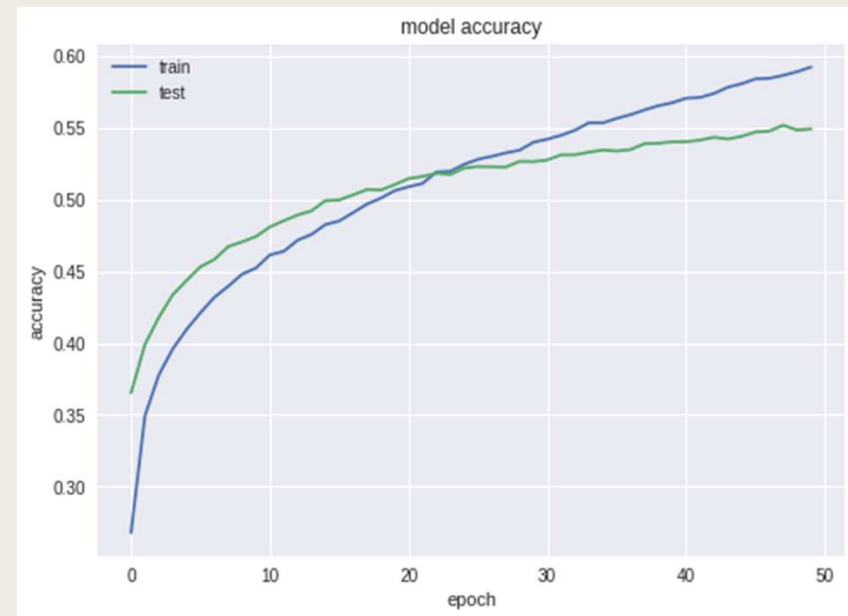
CIFAR 10 database



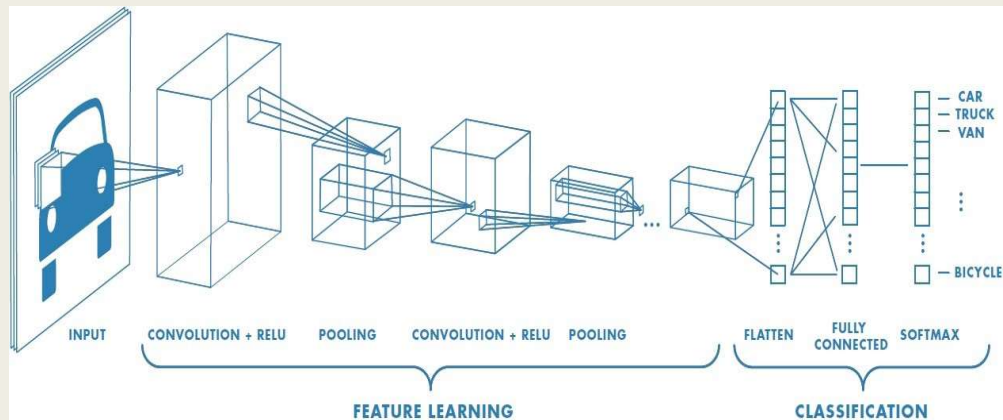
- 60 000 images
- 10 classes
- Each class is equally represented
- 32x32 pixels images
- RGB encoded

Multilayers perceptron

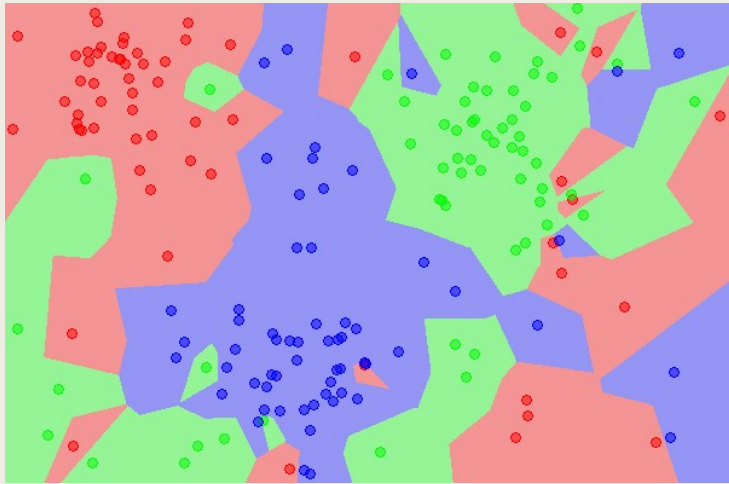
- Fully connected neural network
- Two hidden layers, relu activated
- Output layer activated with softmax



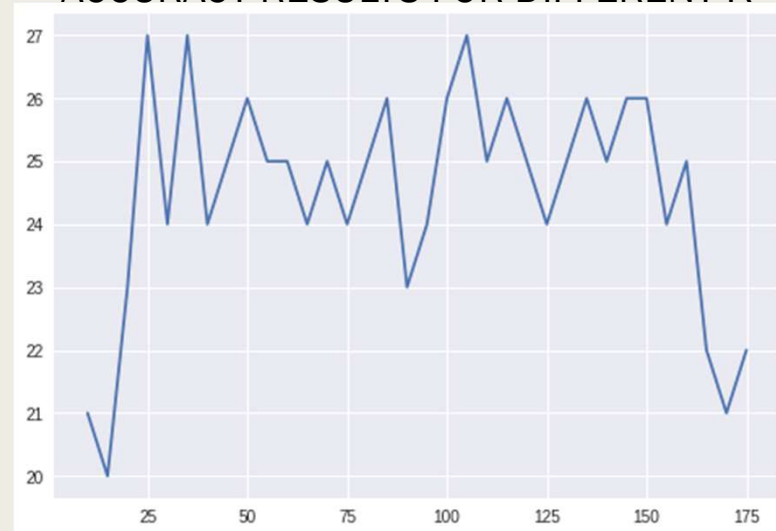
Convolution Neural Network



K Nearest Neighbors



ACCURACY RESULTS FOR DIFFERENT K



Logistic Regression and SVM after PCA

PCA: reduce dimensionality

- Need 658 components / 3072 to explain 99% variance

CLASSIFIERS

Logistic Regression	Support Vector Machine
Reasonable computation time (20 minutes)	Very long computation time (1 hours)
About 19% accuracy	About 21% accuracy

Conclusion