# Home Exercise 09

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### 20-00-0947 Deep Learning für Natural Language Processing TECHNISCHE UNIVERSITÄT DARMSTADT

June 22, 2020

# 1 Mandatory Paper

• The key improvement of capsule network over CNN is dynamic routing training regime, whereas max pool in CNN loses valuable information and also does not encode relative spatial relationships between features. Capsules encapsulate all information about the state of the feature they are detecting in vector form.

#### 2 Text Classification with CNN

### 2.1 Creating data split

#### 2.2 A basic CNN

- See implementation
- The model accuracy on the dev data set is 80,72%

## 2.3 Early stopping

- See code
- $\bullet$  Epoch 5/50. Stop metrics: Accuracy on validation set. Results: Accuracy on validation set:  $83{,}60\%$

## 2.4 Experimenting with CNN hyperparameters

Not yet implemented