Home Exercise 06

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Problem 1: Mandatory Paper

The embedding is created by concatenating the image representation of the character into array of pixel intensity, this embedding is used to capture the visual similarity of characters for example the ! should be near to i than a in the embedding space, since ! and i look identical than ! and a.

Problem 2: Semantic Textual Similarity

2.1 Data format
Line 6 - 33

2.2 Embedding the sentence
Line 36- 67

2.3 Scoring the similarity
Line 78- 95: Generating train, validation and test data Line 98-118: Implementing the model Line 120-125: Model compile with custom loss and optimizer Line 126-131: Train model Line 133-136: Evaluating model

Final mean-squared error on the development dataset 0.0916

*In order to run the script, please load the dataset and the fast word embedding into the DATA folder.

Problem 3: Low level adversarial attacks

Final mean-squared error on the test dataset 0.0908