Assignment 6,7&8 Abstract Generation Last date for submission
50 marks 26-November-2024

Abstract Generation from COVID-19 dataset

Develop a contextualized language model employing a two-layer vanilla recurrent neural network (RNN), long short-term memory (LSTM), or gated recurrent unit (GRU). The model should be implemented using any machine learning library of your choice, such as PyTorch, TensorFlow, or similar.

Assignment 6 - Architecture and describe the architecture (25 marks)

Implement a small language model with a minimum of two hidden states consisting of a forward and backward pass.

Description of the architecture	10 marks
Python implementation	15 marks

Assignment 7 - Training and plotting (25 marks)

Input: Abstracts from the COVID-19 corpus. Experiment with a hundred abstracts before extending to the entire corpus. Plot the error graph during the training process.

Creation of the corpus	5 marks
Training and plotting	20 marks

Assignment 8 - Results and discussion

Generate Abstracts (at Least Three)

Utilize your trained model to generate abstracts. Concisely describe your approach and present the key results obtained.

Note on Potential Reasons for Sub-Optimal Results

Compose a note comprising three distinct points that may contribute to sub-optimal results. Provide specific suggestions on how these factors could be mitigated or improved.

Abstract generation - 15 marks	15 marks
Discussion of the results	10 marks

Note: Please adhere to all the instructions outlined in Assignment 1 for submission. I do not anticipate achieving the level of accuracy and performance typically associated with ChatGPT or Gemini-style models.

You are permitted to submit these assignments as a single Python notebook.