SANTM: Efficient Self-attention-driven Network for Text Matching

PRAYAG TIWARI, Department of Information Engineering, University of Padova, Italy AMIT KUMAR JAISWAL, Institute for Research in Applicable Computing, University of Bedfordshire, United Kingdom SAHIL GARG, École de technologie supérieure, Montréal, QC H3C 1K3, Canada ILSUN YOU, Department of Information Security Engineering, Soonchunhyang University, Asan 31538, South Korea

Self-attention mechanisms have recently been embraced for a broad range of text-matching applications. Self-attention model takes only one sentence as an input with no extra information, i.e., one can utilize the final hidden state or pooling. However, text-matching problems can be interpreted either in symmetrical or asymmetrical scopes. For instance, paraphrase detection is an asymmetrical task, while textual entailment classification and question-answer matching are considered asymmetrical tasks. In this article, we leverage attractive properties of self-attention mechanism and proposes an attention-based network that incorporates three key components for inter-sequence attention: global pointwise features, preceding attentive features, and contextual features while updating the rest of the components. Our model follows evaluation on two benchmark datasets cover tasks of textual entailment and question-answer matching. The proposed efficient Self-attention-driven Network for Text Matching outperforms the state of the art on the Stanford Natural Language Inference and WikiQA datasets with much fewer parameters.

CCS Concepts: • Information systems \rightarrow Question answering; *Document representation*; Information extraction;

Additional Key Words and Phrases: Text matching, deep learning, attention mechanism

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Prayag Tiwari and Amit Kumar Jaiswal contributed equally to the article.

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Authors' addresses: P. Tiwari, Department of Information Engineering, University of Padova, Via Giovanni Gradenigo 6, 35131 Padova PD), Italy; Department of Computer Science, Aalto University, Espoo, Finland; email: prayag.tiwari@aalto.fi; A. K. Jaiswal, Institute for Research in Applicable Computing, University of Bedfordshire, United Kingdom; School of Mathematics, University of Leeds, Woodhouse, United Kingdom LS2 9JT; email: a.k.jaiswal@leeds.ac.uk; S. Garg, École de technologie supérieure, Montréal, QC H3C 1K3, Canada; email: sahil.garg@ieee.org; I. You (corresponding author), Department of Information Security Engineering, Soonchunhyang University, Asan 31538, South Korea; email: ilsunu@gmail.com.