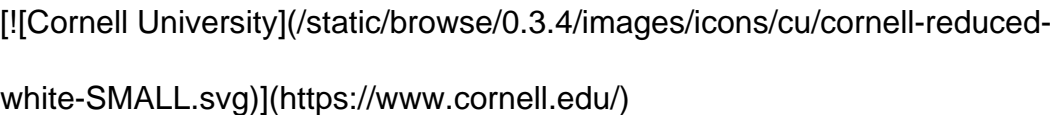


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[Submitted on 27 Aug 2019]

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Authors: [Nils

Reimers](<https://arxiv.org/search/cs?searchtype=author&query=Reimers,+N>),
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> new state-of-the-art performance on sentence-pair regression tasks like
> semantic textual similarity (STS). However, it requires that both sentences
> are fed into the network, which causes a massive computational overhead:
> Finding the most similar pair in a collection of 10,000 sentences requires
> about 50 million inference computations (~65 hours) with BERT. The
> construction of BERT makes it unsuitable for semantic similarity search as
> well as for unsupervised tasks like clustering.
> In this publication, we present Sentence-BERT (SBERT), a modification of the
> pretrained BERT network that use siamese and triplet network structures to
> derive semantically meaningful sentence embeddings that can be compared
> using cosine-similarity. This reduces the effort for finding the most
> similar pair from 65 hours with BERT / RoBERTa to about 5 seconds with
> SBERT, while maintaining the accuracy from BERT.
> We evaluate SBERT and SRoBERTa on common STS tasks and transfer learning
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