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	authors	• Wuwei Lan • Wei Xu	**authors**	• Wuwei Lan • Wei Xu	DUPLICATES	59
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	id	id7109217028853411555	**id**	id-3755877866098430468		
	abstract	Sentence pair modeling is critical for many NLP tasks, such as paraphrase identification, semantic textual similarity, and natural language inference. Most state-of-the-art neural models for these tasks rely on pretrained word embedding and compose sentence-level semantics in varied ways; however, few works have attempted to verify whether we really need pretrained embeddings in these tasks. In this paper, we study how effective subword-level (character and character n-gram) representations are in sentence pair modeling. Though it is well-known that subword models are effective in tasks with single sentence input, including language modeling and machine translation, they have not been systematically studied in sentence pair modeling tasks where the semantic and string similarities between texts matter. Our experiments show that subword models without any pretrained word embedding can achieve new state-of-the-art results on two social media datasets and competitive results on news data for paraphrase identification.	**abstract**	Sentence pair modeling is critical for many NLP tasks, such as paraphrase identification, semantic textual similarity, and natural language inference. Most state-of-the-art neural models for these tasks rely on pretrained word embedding and compose sentence-level semantics in varied ways; however, few works have attempted to verify whether we really need pretrained embeddings in these tasks. In this paper, we study how effective subword-level (character and character n-gram) representations are in sentence pair modeling. Though it is well-known that subword models are effective in tasks with single sentence input, including language modeling and machine translation, they have not been systematically studied in sentence pair modeling tasks where the semantic and string similarities between texts matter. Our experiments show that subword models without any pretrained word embedding can achieve new state-of-the-art results on two social media datasets and competitive results on news data for paraphrase identification.		
	versions		**versions**			