

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Manish BansalRohan KumarKalyani RoySubhadeep MajiPawan Goyal	authors	<ul style="list-style-type: none">Bansal, ManishGoyal, PawanKumar, RohanMaji, SubhadeepRoy, Kalyani	DUPLICATES	303
	title	Logic Constrained Pointer Networks for Interpretable Textual Similarity	title	Logic Constrained Pointer Networks for Interpretable Textual Similarity		
	publication_date	2020-07-15 00:00:00	publication_date	2020-07-15 00:00:00		
	source	SupportedSources.PAPERS_WITH_CODE	source	SupportedSources.CORE		
	journal		journal			
	volume		volume			
	doi		doi	10.24963/ijcai.2020/333		
	urls	<ul style="list-style-type: none">https://arxiv.org/pdf/2007.07670v1.pdfhttps://github.com/manishb89/interpretable_sentence_similarity	urls	<ul style="list-style-type: none">http://arxiv.org/abs/2007.07670		
	id	id7804988134219127398	id	id-7065488992840019851		
	abstract	Systematically discovering semantic relationships in text is an important and extensively studied area in Natural Language Processing, with various tasks such as entailment, semantic similarity, etc. Decomposability of sentence-level scores via subsequence alignments has been proposed as a way to make models more interpretable. We study the problem of aligning components of sentences leading to an interpretable model for semantic textual similarity. In this paper, we introduce a novel pointer network based model with a sentinel gating function to align constituent chunks, which are represented using BERT. We improve this base model with a loss function to equally penalize misalignments in both sentences, ensuring the alignments are bidirectional. Finally, to guide the network with structured external knowledge, we introduce first-order logic constraints based on ConceptNet and syntactic knowledge. The model achieves an F1 score of 97.73 and 96.32 on the benchmark SemEval datasets for the chunk alignment task, showing large improvements over the existing solutions. Source code is available at https://github.com/manishb89/interpretable_sentence_similarity	abstract	Systematically discovering semantic relationships in text is an important and extensively studied area in Natural Language Processing, with various tasks such as entailment, semantic similarity, etc. Decomposability of sentence-level scores via subsequence alignments has been proposed as a way to make models more interpretable. We study the problem of aligning components of sentences leading to an interpretable model for semantic textual similarity. In this paper, we introduce a novel pointer network based model with a sentinel gating function to align constituent chunks, which are represented using BERT. We improve this base model with a loss function to equally penalize misalignments in both sentences, ensuring the alignments are bidirectional. Finally, to guide the network with structured external knowledge, we introduce first-order logic constraints based on ConceptNet and syntactic knowledge. The model achieves an F1 score of 97.73 and 96.32 on the benchmark SemEval datasets for the chunk alignment task, showing large improvements over the existing solutions. Source code is available at https://github.com/manishb89/interpretable_sentence_similarityComment: Accepted at IJCAI 2020 Main Track. Sole copyright holder is IJCAI, all rights reserved. Available at https://www.ijcai.org/Proceedings/2020/33		
	versions		versions			