Table A.5
Work in stance classification.

Study	Task	Features	ML	Dataset
Aldayel and Magdy (2019a)	target-specific	NW features	SVM	SemEval-2016 shared task 6 [Available]
Lynn et al. (2019)	target-specific	NW (followee)	RNN	SemEval-2016 shared task 6 [Available]
Siddiqua et al. (2019a)	target-specific	Content	Nested LSTMs	SemEval-2016 shared task 6 [Available]
Sun, Wang, Zhu, and Zhou (2018)	target-specific	Content	Hierarchical Attention NN	SemEval-2016 shared task 6 [Available]
Siddiqua et al. (2018)	target-specific	Content	SVM Tree Kernel	SemEval-2016 shared task 6 [Available]
Wei, Mao, and Chen (2019)	target-specific	Content+Sentiment lexicon	BiLSTM	SemEval-2016 shared task 6 [Available]
Wei et al. (2019)	target-specific	Content+Noisy stance labeling + Topic Modeling	BiGRU	SemEval-2016 shared task 6 [Available]
Ebner, Wang, and Van Durme (2019)	target-specific	words embedding	Deep averaging network	SemEval-2016 shared task 6 [Available]
Liu et al. (2016)	target-specific	bag-of-words and word vectors (GloVe and word2vec)	Gradient boosting decision trees and SVM and merge all classifiers into an ensemble method	SemEval-2016 shared task 6 [Available]
Dias and Becker (2016)	target-specific	n-gram and sentiment	SVM	SemEval-2016 shared task 6 [Available]
Dias and Becker (2016)	target-specific	n-gram and sentiment	SVM	SemEval-2016 shared task 6 [Available]
Igarashi et al. (2016)	target-specific	Reply, BagOfWord, BagOfDependencies, POS tags Sentiment WordNet, Sentiment Word Subject, Target Sentiment and Point-wise Mutual Information	CNN	SemEval-2016 shared task 6 [Available]
Igarashi et al. (2016)	target-specific	Reply, BagOfWord, BagOfDependencies, POS tags Sentiment WordNet, Sentiment Word Subject, Target Sentiment and Point-wise Mutual Information	CNN	SemEval-2016 shared task 6 [Available]
Augenstein, and Rocktäschel et al. (2016)	target-specific	word2vec	Bidirectional LSTMs	SemEval-2016 shared task 6 [Available]
Krejzl and Steinberger (2016)	target-specific	hashtags, n-grams, tweet length, Part-of-speech, General Inquirer, entity-centered sentiment dictionaries, Domain Stance Dictionary	Maximum entropy classifier	SemEval-2016 shared task 6 [Available]
Ebrahimi, Dou, and Lowd (2016)	target-specific	n-gram and sentiments	Discriminative and generative models	SemEval-2016 shared task 6 [Available]
Wei et al. (2016)	target-specific	Google news word2vec and hashtags	CNN	SemEval-2016 shared task 6 [Available]
Zarrella and Marsh (2016)	target-specific	word2vec hash-tags	LSTM	SemEval-2016 shared task 6 [Available]
Rajadesingan and Liu (2014)	target-specific	unigrams, bigrams and trigrams	Naive Bayes	hotly contested gun reforms debate from April 15th, 2013 to April 18th, 2013. [Available]
Zhou, Cristea, and Shi (2017)	target-specific	word embeddings	Bi-directional GRU-CNN	SemEval-2016 shared task 6 [Available]
Vijayaraghavan, Sysoev, Vosoughi, and Roy (2016)	target-specific	word embeddings	CNN	SemEval-2016 shared task 6 [Available]
Elfardy and Diab (2016)	target-specific	Lexical Features, Latent Semantics, Sentiment, Linguistic Inquiry, Word Count and Frame Semantics features	SVM	SemEval-2016 shared task 6 [Available]

(*continued on next page*)

Table A.5 (*continued*).

Study	Task	Features	ML	Dataset
Lai et al. (2016)	target-specific	Sentiment, opinion target, structural features (hashtags, mentions, punctuation marks), text-Based features	Gaussian Naive Bayes classifier	Hillary Clinton and Donald Trump dataset [Not available]
Sobhani et al. (2017)	multi-target	word vectors	Bidirectional RNN	Multi-Target Stance dataset [Available]
Siddiqua, Chy, and Aono (2019b)	multi-target	Tweets content	Multi-kernel convolution and attentive LSTM	Multi-Target Stance dataset [Available]
Bar-Haim, Bhattacharya, Dinuzzo, Saha, and Slonim (2017)	claim-based	Contrast scores	Random forest and SVM	Claim polarity dataset. Source: Wikipedia and on-line forums [Available]
Aker et al. (2017)	claim-based	Linguistic, message-based, and topic-based such as (Bag of words, POS tag, Sentiment, Named entity and others	Random Forest, Decision tree and Instance Based classifier (K-NN)	RumourEval and PHEME datasets [Available]
Hamidian and Diab (2015)	claim-based	tweet content, Unigram–Bigram Bag of Words, Part of Speech, Sentiment, Emoticon, Named-Entity Recognition, event, time, Reply, Re-tweet, User ID, Hashtag, URL	Decision trees	Qazvinian et al. (2011) [Available]
Aker et al. (2017)	claim-based	BOW,Brown Cluster, POS tag, Sentiment, Named entity, Reply, Emoticon, URL, Mood, Originality score, is User Verified(0–1),Number Of Followers, Role score, Engagement score, Favorites score and other tweets related features	Decision tree, Random Forests and Instance Based classifier	RumourEval dataset (Derczynski et al., 2017) and the PHEME dataset (Derczynski et al., 2015) [Available]
Zubiaga et al. (2018)	claim-based	Word2Vec, POS, Use of negation, Use of swear words, Tweet length, Word count, Use of question mark, Use of exclamation mark,Attachment of URL and other contextualized features	Linear CRF and tree CRF, a Long Short-Term Memory (LSTM)	PHEME dataset Derczynski et al. (2015) and Rmour dataset associated with eight events corresponding to breaking news events (Zubiaga, Liakata, Procter, Wong Sak Hoi, & Tolmie, 2016) [Available]
Kochkina et al. (2017)	claim-based	word2vec, Tweet lexicon (count of negation words and count of swear words),Punctuation, Attachments,Relation to other tweets, Content length and Tweet role (source tweet of a conversation)	Branch-LSTM, a neural network architecture that uses layers of LSTM units	Rumoureval dataset (Derczynski et al., 2017) [Available]

Table A.6
Work in stance prediction.

Study	Features	ML	Dataset
Darwish et al. (2018)	Content Features (Hashtags, Text); Profile Features (Description, Name, Location); Network Features (Mention, Reply, Retweet)	SVM	Islamophobic dataset (Twitter) [Not available]
Magdy et al. (2016)	Content Features (Hashtags, Text); Profile Features (Description, Name, Location); Network Features (Mention, Reply, Retweet)	SVM	Islamophobic dataset (Twitter) [Not available]
Darwish et al. (2017a)	Content Features(Text); Interaction Elements; User Similarity	SVM	Islands Dataset and Islamophobic dataset (Twitter) [Not available]
Lahoti et al. (2018)	A combination of network and content	Non-negative matrix factorization	dataset covered Three controversial topics:gun control,abortion and obamacare (Twitter) [Not available]
Gottipati et al. (2013)	similarity between users	Probabilistic Matrix Factorization	1000 user profile of Democrats and Republicans (debate.org) [Not available]
Dong et al. (2017)	post level interaction and user level interaction	Stance-based Text Generative Model with Rule-based User–User Interaction Links	CNN dataset, 4Forums and IAC discussion forum [Not available]

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