Zhihao Yang

List of Publications by Year
in descending order

118 papers	2,380 citations	236925 25 h-index	243625 44 g-index
121 all docs	121 docs citations	121 times ranked	1823 citing authors

#	Article	IF	Citations
1	An attention-based BiLSTM-CRF approach to document-level chemical named entity recognition. Bioinformatics, 2018, 34, 1381-1388.	4.1	277
2	BioWordVec,Âimproving biomedical word embeddings with subword information and MeSH. Scientific Data, 2019, 6, 52.	5.3	268
3	Drug drug interaction extraction from biomedical literature using syntax convolutional neural network. Bioinformatics, 2016, 32, 3444-3453.	4.1	175
4	Drugâ€"drug interaction extraction via hierarchical RNNs on sequence and shortest dependency paths. Bioinformatics, 2018, 34, 828-835.	4.1	120
5	A hybrid model based on neural networks for biomedical relation extraction. Journal of Biomedical Informatics, 2018, 81, 83-92.	4.3	97
6	Neural network-based approaches for biomedical relation classification: A review. Journal of Biomedical Informatics, 2019, 99, 103294.	4.3	71
7	An attention-based effective neural model for drug-drug interactions extraction. BMC Bioinformatics, 2017, 18, 445.	2.6	69
8	SemaTyP: a knowledge graph based literature mining method for drug discovery. BMC Bioinformatics, 2018, 19, 193.	2.6	60
9	A neural network-based joint learning approach for biomedical entity and relation extraction from biomedical literature. Journal of Biomedical Informatics, 2020, 103, 103384.	4.3	56
10	Biomedical named entity recognition using BERT in the machine reading comprehension framework. Journal of Biomedical Informatics, 2021, 118, 103799.	4.3	55
11	GrEDeL: A Knowledge Graph Embedding Based Method for Drug Discovery From Biomedical Literatures. IEEE Access, 2019, 7, 8404-8415.	4.2	46
12	BioPPISVMExtractor: A proteinâ€"protein interaction extractor for biomedical literature using SVM and rich feature sets. Journal of Biomedical Informatics, 2010, 43, 88-96.	4.3	43
13	Multiple kernel learning in proteinâ€"protein interaction extraction from biomedical literature. Artificial Intelligence in Medicine, 2011, 51, 163-173.	6.5	42
14	Incorporating rich background knowledge for gene named entity classification and recognition. BMC Bioinformatics, 2009, 10, 223.	2.6	40
15	A graph kernel based on context vectors for extracting drugâ€"drug interactions. Journal of Biomedical Informatics, 2016, 61, 34-43.	4.3	38
16	Integrating shortest dependency path and sentence sequence into a deep learning framework for relation extraction in clinical text. BMC Medical Informatics and Decision Making, 2019, 19, 22.	3.0	38
17	Disease named entity recognition from biomedical literature using a novel convolutional neural network. BMC Medical Genomics, 2017, 10, 73.	1.5	36
18	Exploiting the performance of dictionary-based bio-entity name recognition in biomedical literature. Computational Biology and Chemistry, 2008, 32, 287-291.	2.3	35

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19	An effective neural model extracting document level chemical-induced disease relations from biomedical literature. Journal of Biomedical Informatics, 2018, 83, 1-9.	4.3	30
20	Drug name recognition in biomedical texts: a machine-learning-based method. Drug Discovery Today, 2014, 19, 610-617.	6.4	29
21	A method for predicting protein complex in dynamic PPI networks. BMC Bioinformatics, 2016, 17, 229.	2.6	29
22	Chemical–protein interaction extraction via Gaussian probability distribution and external biomedical knowledge. Bioinformatics, 2020, 36, 4323-4330.	4.1	28
23	Gene Function Prediction Based on the Gene Ontology Hierarchical Structure. PLoS ONE, 2014, 9, e107187.	2.5	27
24	Neighborhood hash graph kernel for protein–protein interaction extraction. Journal of Biomedical Informatics, 2011, 44, 1086-1092.	4.3	26
25	Construction of dynamic probabilistic protein interaction networks for protein complex identification. BMC Bioinformatics, 2016, 17, 186.	2.6	26
26	Opinion Mining in e-Learning System. , 2007, , .		25
27	A multiple distributed representation method based on neural network for biomedical event extraction. BMC Medical Informatics and Decision Making, 2017, 17, 171.	3.0	24
28	A Deep Learning Approach With Deep Contextualized Word Representations for Chemical–Protein Interaction Extraction From Biomedical Literature. IEEE Access, 2019, 7, 151034-151046.	4.2	24
29	A Single Kernel-Based Approach to Extract Drug-Drug Interactions from Biomedical Literature. PLoS ONE, 2012, 7, e48901.	2.5	22
30	KGHC: a knowledge graph for hepatocellular carcinoma. BMC Medical Informatics and Decision Making, 2020, 20, 135.	3.0	21
31	Extracting drug–drug interactions with hybrid bidirectional gated recurrent unit and graph convolutional network. Journal of Biomedical Informatics, 2019, 99, 103295.	4.3	20
32	Biomedical event trigger detection by dependency-based word embedding. BMC Medical Genomics, 2016, 9, 45.	1.5	18
33	Adverse drug reaction detection via a multihop self-attention mechanism. BMC Bioinformatics, 2019, 20, 479.	2.6	18
34	Sentence representation with manifold learning for biomedical texts. Knowledge-Based Systems, 2021, 218, 106869.	7.1	18
35	Exploiting the contextual cues for bio-entity name recognition in biomedical literature. Journal of Biomedical Informatics, 2008, 41, 580-587.	4.3	17
36	Attention guided capsule networks for chemical-protein interaction extraction. Journal of Biomedical Informatics, 2020, 103, 103392.	4.3	16

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37	Document-Level Biomedical Relation Extraction Using Graph Convolutional Network and Multihead Attention: Algorithm Development and Validation. JMIR Medical Informatics, 2020, 8, e17638.	2.6	15
38	Multimodal reasoning based on knowledge graph embedding for specific diseases. Bioinformatics, 2022, 38, 2235-2245.	4.1	15
39	PPIExtractor: A Protein Interaction Extraction and Visualization System for Biomedical Literature. IEEE Transactions on Nanobioscience, 2013, 12, 173-181.	3.3	14
40	The impact of protein interaction networks' characteristics on computational complex detection methods. Journal of Theoretical Biology, 2018, 439, 141-151.	1.7	14
41	Chemical–protein interaction extraction via contextualized word representations and multihead attention. Database: the Journal of Biological Databases and Curation, 2019, 2019, .	3.0	14
42	Detection of protein complexes from multiple protein interaction networks using graph embedding. Artificial Intelligence in Medicine, 2019, 96, 107-115.	6.5	14
43	Interactive Self-Attentive Siamese Network for Biomedical Sentence Similarity. IEEE Access, 2020, 8, 84093-84104.	4.2	14
44	Filtering Gene Ontology semantic similarity for identifying protein complexes in large protein interaction networks. Proteome Science, 2012, 10, S18.	1.7	13
45	DIGNiFI: Discovering causative genes for orphan diseases using protein-protein interaction networks. BMC Systems Biology, 2017, 11, 23.	3.0	12
46	Protein Complex Identification by Integrating Protein-Protein Interaction Evidence from Multiple Sources. PLoS ONE, 2013, 8, e83841.	2.5	11
47	A network embedding model for pathogenic genes prediction by multi-path random walking on heterogeneous network. BMC Medical Genomics, 2019, 12, 188.	1.5	11
48	A Graph Convolutional Network–Based Method for Chemical-Protein Interaction Extraction: Algorithm Development. JMIR Medical Informatics, 2020, 8, e17643.	2.6	11
49	Exploiting sequence labeling framework to extract document-level relations from biomedical texts. BMC Bioinformatics, 2020, 21, 125.	2.6	10
50	MRC4BioER: Joint extraction of biomedical entities and relations in the machine reading comprehension framework. Journal of Biomedical Informatics, 2022, 125, 103956.	4.3	10
51	Supervised Learning Based Hypothesis Generation from Biomedical Literature. BioMed Research International, 2015, 2015, 1-12.	1.9	9
52	CIDExtractor: A chemical-induced disease relation extraction system for biomedical literature. , 2016, , .		9
53	A neural network approach to chemical and gene/protein entity recognition in patents. Journal of Cheminformatics, 2018, 10, 65.	6.1	9
54	Detecting adverse drug reactions from social media based on multi-channel convolutional neural networks. Neural Computing and Applications, 2019, 31, 4799-4808.	5.6	9

#	ARTICLE	IF	CITATIONS
55	Semi-supervised method for biomedical event extraction. Proteome Science, 2013, 11, S17.	1.7	8
56	An uncertain model-based approach for identifying dynamic protein complexes in uncertain protein-protein interaction networks. BMC Genomics, 2017, 18, 743.	2.8	8
57	Full-attention Based Drug Drug Interaction Extraction Exploiting User-generated Content. , 2018, , .		8
58	A multi-task learning based approach to biomedical entity relation extraction. , 2018, , .		8
59	Lexicon Knowledge Boosted Interaction Graph Network for Adverse Drug Reaction Recognition From Social Media. IEEE Journal of Biomedical and Health Informatics, 2021, 25, 2777-2786.	6.3	7
60	A network representation approach for COVID-19 drug recommendation. Methods, 2022, 198, 3-10.	3.8	7
61	Biomedical event trigger detection by dependency-based word embedding. , 2015, , .		6
62	ML-CNN: A novel deep learning based disease named entity recognition architecture. , 2016, , .		6
63	Identifying protein complexes based on node embeddings obtained from protein-protein interaction networks. BMC Bioinformatics, 2018, 19, 332.	2.6	6
64	Incorporating User Generated Content for Drug Drug Interaction Extraction Based on Full Attention Mechanism. IEEE Transactions on Nanobioscience, 2019, 18, 360-367.	3.3	6
65	Biomedical document triage using a hierarchical attention-based capsule network. BMC Bioinformatics, 2020, 21, 380.	2.6	6
66	Cross2Self-attentive Bidirectional Recurrent Neural Network with BERT for Biomedical Semantic Text Similarity. , 2020, , .		6
67	Semisupervised Learning Based Disease-Symptom and Symptom-Therapeutic Substance Relation Extraction from Biomedical Literature. BioMed Research International, 2016, 2016, 1-13.	1.9	5
68	A Knowledge Graph based Bidirectional Recurrent Neural Network Method for Literature-based Discovery. , 2018, , .		5
69	SVM-based Protein-Protein Interaction Extraction from Medline abstracts. , 2007, , .		4
70	Ontology integration to identify protein complex in protein interaction networks. , 2010, , .		4
71	A hybrid protein-protein interaction triple extraction method for biomedical literature. , 2017, , .		4
72	Hierarchical Recurrent Convolutional Neural Network for Chemical-protein Relation Extraction from Biomedical Literature. , 2018, , .		4

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73	Document triage for identifying protein–protein interactions affected by mutations: a neural network ensemble approach. Database: the Journal of Biological Databases and Curation, 2018, 2018, .	3.0	4
74	Document Retrieval for Precision Medicine Using a Deep Learning Ensemble Method. JMIR Medical Informatics, 2021, 9, e28272.	2.6	4
75	Adversarial transfer network with bilinear attention for the detection of adverse drug reactions from social media. Applied Soft Computing Journal, 2021, 106, 107358.	7.2	4
76	Extracting biomedical relations via a multi-head attention based graph convolutional network. , 2020, , .		4
77	Gated iterative capsule network for adverse drug reaction detection from social media. , 2020, , .		4
78	Deep learning with language models improves named entity recognition for PharmaCoNER. BMC Bioinformatics, 2021, 22, 602.	2.6	4
79	Ranking support vector machine for multiple kernels output combination in protein–protein interaction extraction from biomedical literature. Proteomics, 2011, 11, 3811-3817.	2.2	3
80	Chemical-protein interaction extraction from biomedical literature: a hierarchical recurrent convolutional neural network method. International Journal of Data Mining and Bioinformatics, 2019, 22, 113.	0.1	3
81	Incorporating representation learning and multihead attention to improve biomedical cross-sentence n-ary relation extraction. BMC Bioinformatics, 2020, 21, 312.	2.6	3
82	Biomedical event extraction based on distributed representation and deep learning. , 2016, , .		3
83	Opinion Mining in e-Learning System. , 2007, , .		3
84	Star-BiLSTM-LAN for Document-level Mutation-Disease Relation Extraction from Biomedical Literature. , 2020, , .		3
85	Refining electronic medical records representation in manifold subspace. BMC Bioinformatics, 2022, 23, 115.	2.6	3
86	Co-Attentive Span Network with Multi-task learning for Biomedical Named Entity Recognition. , 2021, , .		3
87	Two Approaches for Biomedical Text Classification. , 2007, , .		2
88	Applying Feature Coupling Generalization for Protein-Protein Interaction Extraction. , 2009, , .		2
89	Identifying Protein Complexes from PPI Networks Using GO Semantic Similarity. , 2011, , .		2
90	Integrating multiple biomedical resources for protein complex prediction. , 2013, , .		2

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91	Protein-Protein Interaction Article Classification: A Knowledge-enriched Self-Attention Convolutional Neural Network Approach. , 2018, , .		2
92	HMNPPIDâ€"human malignant neoplasm proteinâ€"protein interaction database. Human Genomics, 2019, 13, 44.	2.9	2
93	Question-answering system based on concepts and statistics. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2007, 2, 23-28.	0.6	1
94	A syntactic rule-based method for automatic pathway information extraction from biomédical literature. , 2012, , .		1
95	Classifying protein complexes from candidate subgraphs using fuzzy machine learning model. , 2012, , .		1
96	PPIExtractor: A protein-protein interaction Extractor for biom&#x00E9;dical literature. , 2012, , .		1
97	Discover potential adverse drug reactions using the skip-gram model. , 2015, , .		1
98	Learning to rank for biomedical information retrieval. , 2015, , .		1
99	Deep neural network based protein-protein interaction extraction from biomedical literature. , 2015, , .		1
100	Disease-specific protein complex detection in the human protein interaction network with a supervised learning method. , 2016, , .		1
101	Multipath2vec: Predicting Pathogenic Genes via Heterogeneous Network Embedding. , 2018, , .		1
102	Protein Complexes Detection Based on Global Network Representation Learning. , 2018, , .		1
103	A Semantic Network Encoder for Associated Fact Prediction. IEEE Transactions on Knowledge and Data Engineering, 2022, 34, 5114-5125.	5.7	1
104	A Graph-boosted Framework for Adverse Drug Event Detection on Twitter. , 2020, , .		1
105	Manifold biomedical text sentence embedding. Neurocomputing, 2022, 492, 117-125.	5.9	1
106	SGAT: a Self-supervised Graph Attention Network for Biomedical Relation Extraction. , 2021, , .		1
107	Gene Name Automatic Recognition in Biomedical Literature. , 2006, , .		0
108	Ranking SVM for multiple kernels output combination in protein-protein interaction extraction from biomedical literature. , 2010, , .		0

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109	Combining labeled and unlabeled data for biomédical event extraction. , 2012, , .		0
110	Data integration and supervised learning based protein complex detection method. , 2014, , .		0
111	Deep graph search based disease related knowledge summarization from biomedical literature. , 2014, , .		0
112	Exploring the relation between the characteristics of protein interaction networks and the performances of computational complex detection methods. , 2014, , .		0
113	Disease Related Knowledge Summarization Based on Deep Graph Search. BioMed Research International, 2015, 2015, 1-11.	1.9	0
114	DIGNiFI. , 2016, , .		0
115	PC-SENE: A node embedding based method for protein complex detection. , 2018, , .		0
116	HMNPPID: A Database of Protein-protein Interactions Associated with Human Malignant Neoplasms. , 2018, , .		0
117	Residual Connected Enhanced Sequential Inference Model for Natural Language Inference. , 2019, , .		0
118	Disease Gene Prediction Based on Heterogeneous Probabilistic Hypergraph Ranking. , 2019, , .		0