

Appendix 1 Search strategy

Web of Science Core Collection search strategy (n=5,632)

#1
TS=(“lung adenocarcinoma*” OR “lung adeno-carcinoma” OR “Pulmonary cancer*” OR “carcinoma of lung” OR “carcinoma of the lung” OR “lung carcinoma*” OR “Small Cell Lung Carcinoma*” OR LUAD OR “Lung Cancer*” OR “Lung Neopla*” OR “lung tumor*” OR “lung tumour*” OR “Bronchial Neoplasm*” OR “lung Neoplasm*” OR “Pulmonary Neoplasm*” OR “neoplastic bronchial” OR “neoplastic lung” OR “Pulmonary carcinoma*” OR NSCLC OR “Pulmonary Cancer*” OR SCLC)

#2
TS=(GGO OR “Ground-glass nodule*” OR “lung parenchyma nodule” OR “lung nodule*” OR “pulmonary masses” OR “pulmonary nodular lesions” OR “Pulmonary Nodule*” OR “Part solid nodule*” OR “PSN” OR “GGN” OR “Ground glass nodule”)

#3
TS=(“Artificial intelligence” OR “Machine learning” OR “Support vector machine” OR SVM OR CNN OR RNN OR LSTM OR ResNet OR DenseNet OR Unet OR U-net OR DNN OR “Neural network*” OR “Convolutional network*” OR “Deep learn*” OR “Semantic segmentation” OR Ensemble OR “Classification tree*” OR “regression tree” OR “probability tree” OR “nearest neighbo*” OR “random forest” OR kernel OR k-means OR “naive bayes” OR AI)

#4
TS=(radiomics OR Radiomi* OR “Quantitative Imag*” OR Textur* OR wavelet*)

#5
TS=(image* OR picture* OR photograph* OR X-ray* OR CT OR MRI OR panorama* OR Computer Tomography OR Magnetic Resonance Imaging OR tomography OR PET CT)

#6 #1 OR #2

#7 #3 OR #4

#8 #5 AND #6 AND #7

Table S1 The top 40 most published countries/regions

Rank	Country/region	Articles	SCP	MCP
1	China	1,365	1,103	262
2	USA	393	253	140
3	India	235	208	27
4	Korea	147	121	26
5	Japan	119	108	11
6	Italy	96	73	23
7	Netherlands	72	23	49
8	United Kingdom	60	37	23
9	Germany	45	27	18
10	Canada	41	21	20
11	Brazil	37	33	4
12	France	37	30	7
13	Pakistan	37	20	17
14	Australia	28	11	17
15	Iran	24	17	7
16	Switzerland	20	7	13
17	Saudi Arabia	19	10	9
18	Spain	19	15	4
19	Turkey	17	15	2
20	Portugal	15	12	3
21	Poland	12	8	4
22	Sweden	12	6	6
23	Belgium	11	4	7
24	Egypt	9	7	2
25	Malaysia	9	5	4
26	Denmark	8	2	6
27	Bangladesh	7	2	5
28	Greece	7	5	2
29	Norway	7	5	2
30	Romania	5	3	2
31	Russia	5	4	1
32	Singapore	5	2	3
33	Austria	4	0	4
34	Ethiopia	4	0	4
35	Mexico	4	3	1
36	Thailand	4	1	3
37	Iraq	3	1	2
38	Israel	3	2	1
39	Jordan	3	2	1
40	Tunisia	3	3	0

MCP, multicenter publishing; SCP, single-center publishing.

Table S2 The top 40 most cited countries/regions on average

Rank	Country/region	Average article citations
1	Ireland	79.5
2	Netherlands	55.6
3	United Kingdom	48.4
4	USA	47.7
5	Vietnam	44.5
6	Belgium	43.7
7	Mexico	39.5
8	Malaysia	36.1
9	Lebanon	36.0
10	Australia	35.1
11	Brazil	34.7
12	Estonia	34.0
13	Denmark	29.9
14	Finland	28.0
15	Macedonia	27.0
16	Canada	26.4
17	France	25.5
18	Greece	25.0
19	Switzerland	24.4
20	Korea	23.7
21	Turkey	23.7
22	Italy	23.5
23	Portugal	23.5
24	Tunisia	19.7
25	Indonesia	19.5
26	Poland	18.8
27	Pakistan	18.4
28	Norway	17.4
29	Japan	16.5
30	Colombia	16.0
31	Singapore	15.6
32	China	15.3
33	Iran	15.0
34	Sweden	14.7
35	Ghana	14.0
36	South Africa	14.0
37	Serbia	14.0
38	Spain	12.9
39	Ethiopia	12.8
40	India	12.2

Table S3 The frequency of the forty most published institutions and the centrality

Rank	Institution	Frequency	Centrality
1	Fudan University	109	0.05
2	Shanghai Jiao Tong University	105	0.06
3	Chinese Academy of Sciences	97	0.08
4	General Electric	75	0.05
5	Harvard University	74	0.14
6	Shandong First Medical University & Shandong Academy of Medical Sciences	72	0.02
7	Northeastern University - China	62	0.03
8	University of Texas System	62	0.06
9	Shandong University	59	0.01
10	Harvard Medical School	58	0.11
11	Zhejiang University	58	0.01
12	Chinese Academy of Medical Sciences - Peking Union Medical College	53	0.05
13	Tongji University	52	0.02
14	Tianjin Medical University	49	0.04
15	Sun Yat Sen University	49	0.05
16	Sichuan University	47	0.01
17	Sungkyunkwan University (SKKU)	47	0.01
18	Southern Medical University - China	47	0.01
19	H Lee Moffitt Cancer Center & Research Institute	46	0.02
20	Maastricht University	45	0.06
21	Seoul National University (SNU)	45	0.02
22	Samsung Medical Center	43	0.01
23	China Medical University	43	0.03
24	Zhengzhou University	40	0
25	Huazhong University of Science & Technology	40	0.03
26	University of California System	39	0.06
27	University of London	39	0.05
28	Peking Union Medical College	39	0.02
29	Brigham & Women's Hospital	38	0.03
30	Nanjing Medical University	37	0.02
31	University of Chinese Academy of Sciences	37	0.04
32	Beihang University	37	0.02
33	University of Groningen	36	0.05
34	Massachusetts General Hospital	35	0.03
35	Guangdong Academy of Medical Sciences & Guangdong General Hospital	33	0.01
36	Capital Medical University	33	0.02
37	State University System of Florida	32	0.01
38	Peking University	31	0.01
39	National Institute of Technology (NIT System)	31	0.03
40	Stanford University	30	0.08

Table S4 The top 40 authors for co-citation.

Rank	Author	Citations
1	Armato SG	640
2	Jemal A	602
3	Lambin P	548
4	Aerts HJWL	519
5	Aberle DR	463
6	Gillies RJ	427
7	Setio AAA	399
8	Travis WD	324
9	Ronneberger O	302
10	He Km	301
11	Van Griethuysenijm	292
12	Liu Y	280
13	Macmahon H	263
14	Wang S	237
15	Coroller TP	233
16	Parmar C	228
17	Ganeshan B	211
18	Shen W	210
19	Zwanenburg A	209
20	Henschke CI	202
21	Haralick RM	201
22	Siegel RL	198
23	Messay T	197
24	Xie Yt	184
25	Ardila D	183
26	Huang YQ	181
27	Sung H	181
28	Suzuki K	180
29	Clark K	179
30	Li Q	178
31	Lecun Y	177
32	Dou Q	177
33	Simonyan K	176
34	Kumar V	174
35	Jacobs C	168
36	Huang G	159
37	Velazquez ER	157
38	Gould MK	154
39	Zhao W	149
40	Van Ginnekenb	148

Table S5 The top 30 journals related to this field.

Rank	Journal	Country/region	IF (2023)	Number of publications	Cited references
1	<i>Frontiers in Oncology</i>	Switzerland	3.5	177	1,254
2	<i>Medical Physics</i>	USA	3.2	109	3,487
3	<i>European Radiology</i>	Austria	4.7	92	2,438
4	<i>Scientific Reports</i>	England	3.8	89	2,156
5	<i>Cancers</i>	Switzerland	4.5	78	529
6	<i>IEEE Access</i>	USA	3.4	73	843
7	<i>Physics in Medicine and Biology</i>	England	3.3	61	1,080
8	<i>PLoS One</i>	USA	2.9	57	1,564
9	<i>Academic Radiology</i>	USA	3.8	47	1,040
10	<i>Diagnostics</i>	Switzerland	3.0	47	297
11	<i>Journal of Digital Imaging</i>	USA	2.9	46	1,014
12	<i>Multimedia Tools and Applications</i>	Netherlands	3.0	46	290
13	<i>Computer Methods and Programs in Biomedicine</i>	Netherlands	4.9	44	868
14	<i>Biomedical Signal Processing and Control</i>	England	4.9	41	328
15	<i>European Journal of Radiology</i>	Ireland	3.2	39	1003
16	<i>Quantitative Imaging in Medicine And Surgery</i>	China	2.9	39	336
17	<i>Applied Sciences-Basel</i>	Switzerland	2.5	37	220
18	<i>Computers In Biology and Medicine</i>	USA	7.0	37	1,003
19	<i>Clinical Radiology</i>	England	2.1	35	421
20	<i>Translational Lung Cancer Research</i>	China	4	35	614
21	<i>International Journal of Imaging Systems and Technology</i>	USA	3.0	33	142
22	<i>Radiology</i>	USA	12.1	32	5,152
23	<i>International Journal of Computer Assisted Radiology and Surgery</i>	Germany	2.3	28	501
24	<i>IEEE Journal of Biomedical and Health Informatics</i>	USA	6.7	26	474
25	<i>Journal of Thoracic Disease</i>	Hong Kong SAR, China	2.1	26	607
26	<i>Radiotherapy and Oncology</i>	Netherlands	4.9	26	290
27	<i>European Journal of Nuclear Medicine and Molecular Imaging</i>	Germany	8.6	24	1,244
28	<i>Cancer Imaging</i>	England	3.5	23	425
29	<i>Lung Cancer</i>	Netherlands	4.5	23	1,610
30	<i>Journal of Medical Imaging and Health Informatics</i>	USA	0	22	90

Table S6 The frequency of the top 40 keywords and the centrality

Rank	Keyword	Count	Centrality
1	Lung cancer	824	0.02
2	Deep learning	525	0.01
3	Classification	505	0.04
4	Cancer	504	0.06
5	Computed tomography	492	0.05
6	Pulmonary nodules	483	0.02
7	Images	370	0.03
8	CT	346	0.03
9	Features	336	0.02
10	Survival	257	0.03
11	Segmentation	242	0.04
12	Machine learning	236	0.01
13	Diagnosis	223	0.01
14	Lung nodules	197	0.04
15	Non-small cell lung cancer	195	0.02
16	Artificial intelligence	188	0.01
17	Texture analysis	178	0.05
18	Lung adenocarcinoma	177	0.02
19	Prediction	154	0.01
20	Convolutional neural network	152	0
21	Automatic detection	151	0.03
22	CT images	142	0.02
23	False positive reduction	140	0.01
24	Radiomics	140	0.01
25	Model	135	0.01
26	System	129	0.03
27	Nodules	127	0.02
28	Computer aided diagnosis	119	0.02
29	Management	116	0.01
30	Computer aided detection	115	0.02
31	Heterogeneity	113	0.04
32	Adenocarcinoma	112	0.04
33	Positron emission tomography	110	0.02
34	Pulmonary nodule	109	0.01
35	Performance	105	0.05
36	Validation	104	0.01
37	Signature	100	0.01
38	Cell lung cancer	94	0.03
39	Lung nodule	93	0.01
40	Computer-aided diagnosis	91	0.05