Maria C ValdÃ©s HernÃ¡ndez

List of Publications by Year
in descending order

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135 papers	6,900 citations	94433 37 h-index	74163 75 g-index
160 all docs	160 docs citations	160 times ranked	10395 citing authors

#	Article	IF	Citations
1	The ENIGMA Consortium: large-scale collaborative analyses of neuroimaging and genetic data. Brain Imaging and Behavior, 2014, 8, 153-182.	2.1	696
2	What are White Matter Hyperintensities Made of?. Journal of the American Heart Association, 2015, 4, 001140.	3.7	599
3	A General Factor of Brain White Matter Integrity Predicts Information Processing Speed in Healthy Older People. Journal of Neuroscience, 2010, 30, 7569-7574.	3.6	297
4	Assessment of bloodâ€“brain barrier disruption using dynamic contrast-enhanced MRI. A systematic review. NeuroImage: Clinical, 2014, 6, 262-274.	2.7	285
5	White matter hyperintensities and normal-appearing white matter integrity in the aging brain. Neurobiology of Aging, 2015, 36, 909-918.	3.1	224
6	Bloodâ€brain barrier failure as a core mechanism in cerebral small vessel disease and dementia: evidence from a cohort study. Alzheimer's and Dementia, 2017, 13, 634-643.	0.8	190
7	Brain Aging, Cognition in Youth and Old Age and Vascular Disease in the Lothian Birth Cohort 1936: Rationale, Design and Methodology of the Imaging Protocol. International Journal of Stroke, 2011, 6, 547-559.	5.9	188
8	Vascular risk factors, large-artery atheroma, and brain white matter hyperintensities. Neurology, 2014, 82, 1331-1338.	1.1	181
9	Machine learning of neuroimaging for assisted diagnosis of cognitive impairment and dementia: A systematic review. Alzheimer's and Dementia: Diagnosis, Assessment and Disease Monitoring, 2018, 10, 519-535.	2.4	162
10	Bloodâ€“Brain Barrier Permeability and Long-Term Clinical and Imaging Outcomes in Cerebral Small Vessel Disease. Stroke, 2013, 44, 525-527.	2.0	149
11	Integrity of normal-appearing white matter: Influence of age, visible lesion burden and hypertension in patients with small-vessel disease. Journal of Cerebral Blood Flow and Metabolism, 2017, 37, 644-656.	4.3	147
12	New multispectral MRI data fusion technique for white matter lesion segmentation: method and comparison with thresholding in FLAIR images. European Radiology, 2010, 20, 1684-1691.	4.5	146
13	Tracer kinetic modelling for DCE-MRI quantification of subtle bloodâ€“brain barrier permeability. NeuroImage, 2016, 125, 446-455.	4.2	138
14	Blood Pressure, Internal Carotid Artery Flow Parameters, and Age-Related White Matter Hyperintensities. Hypertension, 2014, 63, 1011-1018.	2.7	114
15	Circulating Inflammatory Markers Are Associated With Magnetic Resonance Imaging-Visible Perivascular Spaces But Not Directly With White Matter Hyperintensities. Stroke, 2014, 45, 605-607.	2.0	113
16	Mediterranean-type diet and brain structural change from 73 to 76 years in a Scottish cohort. Neurology, 2017, 88, 449-455.	1.1	109
17	Brain iron deposits are associated with general cognitive ability and cognitive aging. Neurobiology of Aging, 2012, 33, 510-517.e2.	3.1	104
18	Beyond a bigger brain: Multivariable structural brain imaging and intelligence. Intelligence, 2015, 51, 47-56.	3.0	101

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19	Perivascular Spaces Segmentation in Brain MRI Using Optimal 3D Filtering. Scientific Reports, 2018, 8, 2132.	3.3	98
20	Coupled Changes in Brain White Matter Microstructure and Fluid Intelligence in Later Life. Journal of Neuroscience, 2015, 35, 8672-8682.	3.6	97
21	Cerebral small vessel disease genomics and its implications across the lifespan. Nature Communications, 2020, 11, 6285.	12.8	89
22	Close Correlation between Quantitative and Qualitative Assessments of White Matter Lesions. Neuroepidemiology, 2013, 40, 13-22.	2.3	88
23	Brain white matter damage in aging and cognitive ability in youth and older age. Neurobiology of Aging, 2013, 34, 2740-2747.	3.1	83
24	Brain volumetric changes and cognitive ageing during the eighth decade of life. Human Brain Mapping, 2015, 36, 4910-4925.	3.6	79
25	An epigenetic predictor of death captures multi-modal measures of brain health. Molecular Psychiatry, 2021, 26, 3806-3816.	7.9	77
26	A systematic review of the utility of 1.5 versus 3 Tesla magnetic resonance brain imaging in clinical practice and research. European Radiology, 2012, 22, 2295-2303.	4.5	75
27	Estimated maximal and current brain volume predict cognitive ability in old age. Neurobiology of Aging, 2013, 34, 2726-2733.	3.1	73
28	Towards the automatic computational assessment of enlarged perivascular spaces on brain magnetic resonance images: A systematic review. Journal of Magnetic Resonance Imaging, 2013, 38, 774-785.	3.4	69
29	Segmentation of white matter hyperintensities using convolutional neural networks with global spatial information in routine clinical brain MRI with none or mild vascular pathology. Computerized Medical Imaging and Graphics, 2018, 66, 28-43.	5.8	68
30	Association of allostatic load with brain structure and cognitive ability in later life. Neurobiology of Aging, 2015, 36, 1390-1399.	3.1	67
31	Rationale, design and methodology of the image analysis protocol for studies of patients with cerebral small vessel disease and mild stroke. Brain and Behavior, 2015, 5, e00415.	2.2	65
32	Identification of mineral deposits in the brain on radiological images: a systematic review. European Radiology, 2012, 22, 2371-2381.	4.5	59
33	A Comparison of Location of Acute Symptomatic vs. â€˜Silentâ€™ Small Vessel Lesions. International Journal of Stroke, 2015, 10, 1044-1050.	5.9	59
34	Alzheimer's disease susceptibility genes APOE and TOMM40, and brain white matter integrity in the Lothian Birth Cohort 1936. Neurobiology of Aging, 2014, 35, 1513.e25-1513.e33.	3.1	58
35	Blood pressure and sodium: Association with MRI markers in cerebral small vessel disease. Journal of Cerebral Blood Flow and Metabolism, 2016, 36, 264-274.	4.3	55
36	Computational quantification of brain perivascular space morphologies: Associations with vascular risk factors and white matter hyperintensities. A study in the Lothian Birth Cohort 1936. NeuroImage: Clinical, 2020, 25, 102120.	2.7	51

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37	Associations between education and brain structure at age 73 years, adjusted for age 11 IQ. Neurology, 2016, 87, 1820-1826.	1.1	46
38	Brain cortical characteristics of lifetime cognitive ageing. Brain Structure and Function, 2018, 223, 509-518.	2.3	44
39	DNA Methylation and Protein Markers of Chronic Inflammation and Their Associations With Brain and Cognitive Aging. Neurology, 2021, 97, e2340-e2352.	1.1	44
40	Development and initial evaluation of a semi-automatic approach to assess perivascular spaces on conventional magnetic resonance images. Journal of Neuroscience Methods, 2016, 257, 34-44.	2.5	43
41	Identification of the presence of ischaemic stroke lesions by means of texture analysis on brain magnetic resonance images. Computerized Medical Imaging and Graphics, 2019, 74, 12-24.	5.8	42
42	Neurology-related protein biomarkers are associated with cognitive ability and brain volume in older age. Nature Communications, 2020, 11, 800.	12.8	42
43	Cognitive abilities, brain white matter hyperintensity volume, and structural network connectivity in older age. Human Brain Mapping, 2018, 39, 622-632.	3.6	41
44	Risk and protective factors for structural brain ageing in the eighth decade of life. Brain Structure and Function, 2017, 222, 3477-3490.	2.3	40
45	Personality, health, and brain integrity: The Lothian Birth Cohort Study 1936.. Health Psychology, 2014, 33, 1477-1486.	1.6	38
46	Brain lesion segmentation through image synthesis and outlier detection. NeuroImage: Clinical, 2017, 16, 643-658.	2.7	38
47	Progression of White Matter Disease and Cortical Thinning Are Not Related in Older Community-Dwelling Subjects. Stroke, 2016, 47, 410-416.	2.0	35
48	Genes From a Translational Analysis Support a Multifactorial Nature of White Matter Hyperintensities. Stroke, 2015, 46, 341-347.	2.0	33
49	Brain Peak Width of Skeletonized Mean Diffusivity (PSMD) and Cognitive Function in Later Life. Frontiers in Psychiatry, 2019, 10, 524.	2.6	33
50	Genome-wide association study of 23,500 individuals identifies 7 loci associated with brain ventricular volume. Nature Communications, 2018, 9, 3945.	12.8	31
51	How Much Do Focal Infarcts Distort White Matter Lesions and Global Cerebral Atrophy Measures?. Cerebrovascular Diseases, 2012, 34, 336-342.	1.7	29
52	The striatum, the hippocampus, and short-term memory binding: Volumetric analysis of the subcortical grey matter's role in mild cognitive impairment. NeuroImage: Clinical, 2020, 25, 102158.	2.7	29
53	Automatic segmentation of white matter hyperintensities from brain magnetic resonance images in the era of deep learning and big data â€" A systematic review. Computerized Medical Imaging and Graphics, 2021, 88, 101867.	5.8	29
54	Application of the Ordered Logit Model to Optimising Frangi Filter Parameters for Segmentation of Perivascular Spaces. Procedia Computer Science, 2016, 90, 61-67.	2.0	28

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55	Reliability of an automatic classifier for brain enlarged perivascular spaces burden and comparison with human performance. Clinical Science, 2017, 131, 1465-1481.	4.3	28
56	Application of Texture Analysis to Study Small Vessel Disease and Bloodâ€"Brain Barrier Integrity. Frontiers in Neurology, 2017, 8, 327.	2.4	27
57	Sleep and brain morphological changes in the eighth decade of life. Sleep Medicine, 2020, 65, 152-158.	1.6	27
58	Does white matter structure or hippocampal volume mediate associations between cortisol and cognitive ageing?. Psychoneuroendocrinology, 2015, 62, 129-137.	2.7	26
59	Automatic segmentation of brain white matter and white matter lesions in normal aging: comparison of five multispectral techniques. Magnetic Resonance Imaging, 2012, 30, 222-229.	1.8	24
60	Brain iron deposits and lifespan cognitive ability. Age, 2015, 37, 100.	3.0	24
61	Dietary patterns, cognitive function, and structural neuroimaging measures of brain aging. Experimental Gerontology, 2020, 142, 111117.	2.8	23
62	Quantitative multi-modal MRI of the Hippocampus and cognitive ability in community-dwelling older subjects. Cortex, 2014, 53, 34-44.	2.4	22
63	A critical analysis of neuroanatomical software protocols reveals clinically relevant differences in parcellation schemes. NeuroImage, 2018, 170, 348-364.	4.2	22
64	Hippocampal Shape Modeling Based on a Progressive Template Surface Deformation and its Verification. IEEE Transactions on Medical Imaging, 2015, 34, 1242-1261.	8.9	21
65	Brain grey and white matter predictors of verbal ability traits in older age: The Lothian Birth Cohort 1936. NeuroImage, 2017, 156, 394-402.	4.2	21
66	Coupled changes in hippocampal structure and cognitive ability in later life. Brain and Behavior, 2018, 8, e00838.	2.2	21
67	Interaction of APOE e4 and poor glycemic control predicts white matter hyperintensity growth from 73 to 76. Neurobiology of Aging, 2017, 54, 54-58.	3.1	20
68	Pseudo-healthy Image Synthesis for White Matter Lesion Segmentation. Lecture Notes in Computer Science, 2016, , 87-96.	1.3	19
69	Metric to quantify white matter damage on brain magnetic resonance images. Neuroradiology, 2017, 59, 951-962.	2.2	19
70	Deep Learning vs. Conventional Machine Learning: Pilot Study of WMH Segmentation in Brain MRI with Absence or Mild Vascular Pathology. Journal of Imaging, 2017, 3, 66.	3.0	19
71	A large margin algorithm for automated segmentation of white matter hyperintensity. Pattern Recognition, 2018, 77, 150-159.	8.1	19
72	Perivascular spaces in the centrum semiovale at the beginning of the 8th decade of life: effect on cognition and associations with mineral deposition. Brain Imaging and Behavior, 2020, 14, 1865-1875.	2.1	19

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73	Trait conscientiousness and the personality meta-trait stability are associated with regional white matter microstructure. Social Cognitive and Affective Neuroscience, 2016, 11, 1255-1261.	3.0	18
74	The brain health index: Towards a combined measure of neurovascular and neurodegenerative structural brain injury. International Journal of Stroke, 2018, 13, 849-856.	5.9	18
75	Differentiation of calcified regions and iron deposits in the ageing brain on conventional structural MR images. Journal of Magnetic Resonance Imaging, 2014, 40, 324-333.	3.4	17
76	Exome Chip Analysis Identifies Low-Frequency and Rare Variants in <i>MRPL38</i> for White Matter Hyperintensities on Brain Magnetic Resonance Imaging. Stroke, 2018, 49, 1812-1819.	2.0	17
77	Rationale and design of a longitudinal study of cerebral small vessel diseases, clinical and imaging outcomes in patients presenting with mild ischaemic stroke: Mild Stroke Study 3. European Stroke Journal, 2021, 6, 81-88.	5.5	17
78	Circulating Metabolome and White Matter Hyperintensities in Women and Men. Circulation, 2022, 145, 1040-1052.	1.6	17
79	Hierarchical complexity of the adult human structural connectome. NeuroImage, 2019, 191, 205-215.	4.2	16
80	Polygenic Architecture of Human Neuroanatomical Diversity. Cerebral Cortex, 2020, 30, 2307-2320.	2.9	16
81	Automatic spatial estimation of white matter hyperintensities evolution in brain MRI using disease evolution predictor deep neural networks. Medical Image Analysis, 2020, 63, 101712.	11.6	16
82	Structural, Functional, and Metabolic Brain Differences as a Function of Gender Identity or Sexual Orientation: A Systematic Review of the Human Neuroimaging Literature. Archives of Sexual Behavior, 2021, 50, 3329-3352.	1.9	16
83	Color Fusion of Magnetic Resonance Images Improves Intracranial Volume Measurement in Studies of Aging. Open Journal of Radiology, 2012, 02, 1-9.	0.2	16
84	<i>APOE/TOMM40</i> Genetic Loci, White Matter Hyperintensities, and Cerebral Microbleeds. International Journal of Stroke, 2015, 10, 1297-1300.	5.9	15
85	A four-dimensional computational model of dynamic contrast-enhanced magnetic resonance imaging measurement of subtle blood-brain barrier leakage. NeuroImage, 2021, 230, 117786.	4.2	15
86	Birth weight is associated with brain tissue volumes seven decades later but not with MRI markers of brain ageing. NeuroImage: Clinical, 2021, 31, 102776.	2.7	14
87	Characterization of multifocal T2*-weighted MRI hypointensities in the basal ganglia of elderly, community-dwelling subjects. NeuroImage, 2013, 82, 470-480.	4.2	13
88	Longitudinal serum S100Î² and brain aging in the Lothian Birth Cohort 1936. Neurobiology of Aging, 2018, 69, 274-282.	3.1	13
89	Reliability of two techniques for assessing cerebral iron deposits with structural magnetic resonance imaging. Journal of Magnetic Resonance Imaging, 2011, 33, 54-61.	3.4	12
90	Association between Striatal Brain Iron Deposition, Microbleeds and Cognition 1 Year After a Minor Ischaemic Stroke. International Journal of Molecular Sciences, 2019, 20, 1293.	4.1	12

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91	Predictors of Lesion Cavitation After Recent Small Subcortical Stroke. Translational Stroke Research, 2020, 11, 402-411.	4.2	12
92	Limited One-time Sampling Irregularity Map (LOTS-IM) for Automatic Unsupervised Assessment of White Matter Hyperintensities and Multiple Sclerosis Lesions in Structural Brain Magnetic Resonance Images. Computerized Medical Imaging and Graphics, 2020, 79, 101685.	5.8	12
93	Dietary iodine exposure and brain structures and cognition in older people. Exploratory analysis in the Lothian Birth Cohort 1936. Journal of Nutrition, Health and Aging, 2017, 21, 971-979.	3.3	11
94	Brain structural differences between 73- and 92-year olds matched for childhood intelligence, social background, and intracranial volume. Neurobiology of Aging, 2018, 62, 146-158.	3.1	11
95	Dilated Saliency U-Net for White Matter Hyperintensities Segmentation Using Irregularity Age Map. Frontiers in Aging Neuroscience, 2019, 11, 150.	3.4	11
96	Comparison of structural MRI brain measures between 1.5 and 3ÂT: Data from the Lothian Birth Cohort 1936. Human Brain Mapping, 2021, 42, 3905-3921.	3.6	11
97	MRI Relaxometry for Quantitative Analysis of USPIO Uptake in Cerebral Small Vessel Disease. International Journal of Molecular Sciences, 2019, 20, 776.	4.1	10
98	Exploratory analysis of dietary intake and brain iron accumulation detected using magnetic resonance imaging in older individuals: The Lothian Birth Cohort 1936. Journal of Nutrition, Health and Aging, 2015, 19, 64-69.	3.3	9
99	Automated segmentation of multifocal basal ganglia T2*-weighted MRI hypointensities. NeuroImage, 2015, 105, 332-346.	4.2	9
100	On the computational assessment of white matter hyperintensity progression: difficulties in method selection and bias field correction performance on images with significant white matter pathology. Neuroradiology, 2016, 58, 475-485.	2.2	9
101	Structural neuroimaging differentiates vulnerability from disease manifestation in colombian families with Huntington's disease. Brain and Behavior, 2019, 9, e01343.	2.2	9
102	Longitudinal multi-centre brain imaging studies: guidelines and practical tips for accurate and reproducible imaging endpoints and data sharing. Trials, 2019, 20, 21.	1.6	9
103	Fluctuating asymmetry in brain structure and general intelligence in 73-year-olds. Intelligence, 2020, 78, 101407.	3.0	9
104	Impact of Small Vessel Disease Progression on Long-term Cognitive and Functional Changes After Stroke. Neurology, 2022, 98, .	1.1	9
105	Interhemispheric characterization of small vessel disease imaging markers after subcortical infarct. Brain and Behavior, 2017, 7, e00595.	2.2	8
106	Do 2â€year changes in superior frontal gyrus and global brain atrophy affect cognition?. Alzheimer's and Dementia: Diagnosis, Assessment and Disease Monitoring, 2018, 10, 706-716.	2.4	7
107	Post-stroke Cognition at 1 and 3 Years Is Influenced by the Location of White Matter Hyperintensities in Patients With Lacunar Stroke. Frontiers in Neurology, 2021, 12, 634460.	2.4	7
108	Predicting the Evolution of White Matter Hyperintensities in Brain MRI Using Generative Adversarial Networks and Irregularity Map. Lecture Notes in Computer Science, 2019, , 146-154.	1.3	7

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109	Tracer kinetic assessment of bloodâ€"brain barrier leakage and blood volume in cerebral small vessel disease: Associations with disease burden and vascular risk factors. NeuroImage: Clinical, 2021, 32, 102883.	2.7	7
110	Analysis of dynamic texture and spatial spectral descriptors of dynamic contrast-enhanced brain magnetic resonance images for studying small vessel disease. Magnetic Resonance Imaging, 2020, 66, 240-247.	1.8	6
111	Quantitative measurements of enlarged perivascular spaces in the brain are associated with retinal microvascular parameters in older community-dwelling subjects. Cerebral Circulation - Cognition and Behavior, 2020, 1, 100002.	0.9	6
112	Brain network reorganisation and spatial lesion distribution in systemic lupus erythematosus. Lupus, 2021, 30, 285-298.	1.6	6
113	Lacunar Stroke Lesion Extent and Location and White Matter Hyperintensities Evolution 1 Year Post-lacunar Stroke. Frontiers in Neurology, 2021, 12, 640498.	2.4	6
114	Automatic Irregular Texture Detection in Brain MRI Without Human Supervision. Lecture Notes in Computer Science, 2018, , 506-513.	1.3	6
115	Reaction time variability and brain white matter integrity.. Neuropsychology, 2019, 33, 642-657.	1.3	6
116	Gene-mapping study of extremes of cerebral small vessel disease reveals TRIM47 as a strong candidate. Brain, 2022, 145, 1992-2007.	7.6	6
117	Rationale and design of the brain magnetic resonance imaging protocol for FutureMS: a longitudinal multi-centre study of newly diagnosed patients with relapsing-remitting multiple sclerosis in Scotland. Wellcome Open Research, 0, 7, 94.	1.8	6
118	Automatic Rating of Perivascular Spaces in Brain MRI Using Bag of Visual Words. Lecture Notes in Computer Science, 2016, , 642-649.	1.3	5
119	Voxel-based irregularity age map (IAM) for brain's white matter hyperintensities in MRI. , 2017, , .		5
120	Fixel-Based Analysis Effectively Identifies White Matter Tract Degeneration in Huntingtonâ€™s Disease. Frontiers in Neuroscience, 2021, 15, 711651.	2.8	5
121	Relationship between inferior frontal sulcal hyperintensities on brain MRI, ageing and cerebral small vessel disease. Neurobiology of Aging, 2021, 106, 130-138.	3.1	5
122	Structural Brain MRI Trait Polygenic Score Prediction of Cognitive Abilities. Twin Research and Human Genetics, 2015, 18, 738-745.	0.6	4
123	Considerations on accuracy, pattern and possible underlying factors of brain microbleed progression in older adults with absence or mild presence of vascular pathology. Journal of International Medical Research, 2018, 46, 3518-3538.	1.0	4
124	A Framework for Jointly Assessing and Reducing Imaging Artefacts Automatically Using Texture Analysis and Total Variation Optimisation for Improving Perivascular Spaces Quantification in Brain Magnetic Resonance Imaging. Communications in Computer and Information Science, 2020, , 171-183.	0.5	4
125	Super Resolution Convolutional Neural Networks for Increasing Spatial Resolution of ^{1} H Magnetic Resonance SpectroscopicÂImaging. Communications in Computer and Information Science, 2017, , 641-650.	0.5	4
126	Texture-based Classification for the Automatic Rating of the Perivascular Spaces in Brain MRI. Procedia Computer Science, 2016, 90, 9-14.	2.0	3

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127	3D shape analysis of the brain's third ventricle using a midplane encoded symmetric template model. Computer Methods and Programs in Biomedicine, 2016, 129, 51-62.	4.7	2
128	Workshop on reconstruction schemes for magnetic resonance data: summary of findings and recommendations. Royal Society Open Science, 2017, 4, 160731.	2.4	2
129	Transfer Learning for Task Adaptation of Brain Lesion Assessment and Prediction of Brain Abnormalities Progression/Regression Using Irregularity Age Map in Brain MRI. Lecture Notes in Computer Science, 2018, , 85-93.	1.3	2
130	Retinal Biomarkers Discovery for Cerebral Small Vessel Disease in an Older Population. Communications in Computer and Information Science, 2020, , 400-409.	0.5	2
131	Examining the Relationship between Semiquantitative Methods Analysing Concentration-Time and Enhancement-Time Curves from Dynamic-Contrast Enhanced Magnetic Resonance Imaging and Cerebrovascular Dysfunction in Small Vessel Disease. Journal of Imaging, 2020, 6, 43.	3.0	1
132	Selective Motion Artefact Reduction via Radiomics and k-space Reconstruction for Improving Perivascular Space Quantification in Brain Magnetic Resonance Imaging. Lecture Notes in Computer Science, 2021, , 151-164.	1.3	1
133	Probabilistic Deep Learning withÂAdversarial Training and Volume Interval Estimation - Better Ways toÂPerform andÂEvaluate Predictive Models for White Matter Hyperintensities Evolution. Lecture Notes in Computer Science, 2021, , 168-180.	1.3	1
134	Evaluation of Four Supervised Learning Schemes in White Matter Hyperintensities Segmentation in Absence or Mild Presence of Vascular Pathology. Communications in Computer and Information Science, 2017, , 482-493.	0.5	1
135	Analysis of Spatial Spectral Features of Dynamic Contrast-Enhanced Brain Magnetic Resonance Images for Studying Small Vessel Disease. Communications in Computer and Information Science, 2020, , 282-293.	0.5	1