

Spyridon Bakas

List of Publications by Year in descending order

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Version: 2024-02-01

103
papers

7,058
citations

218677

26
h-index

62596

80
g-index

106
all docs

106
docs citations

106
times ranked

6693
citing authors

#	ARTICLE	IF	CITATIONS
1	The Image Biomarker Standardization Initiative: Standardized Quantitative Radiomics for High-Throughput Image-based Phenotyping. <i>Radiology</i> , 2020, 295, 328-338.	7.3	1,869
2	Advancing The Cancer Genome Atlas glioma MRI collections with expert segmentation labels and radiomic features. <i>Scientific Data</i> , 2017, 4, 170117.	5.3	1,555
3	The future of digital health with federated learning. <i>Npj Digital Medicine</i> , 2020, 3, 119.	10.9	887
4	Federated learning in medicine: facilitating multi-institutional collaborations without sharing patient data. <i>Scientific Reports</i> , 2020, 10, 12598.	3.3	509
5	The Medical Segmentation Decathlon. <i>Nature Communications</i> , 2022, 13, .	12.8	252
6	Multi-institutional Deep Learning Modeling Without Sharing Patient Data: A Feasibility Study on Brain Tumor Segmentation. <i>Lecture Notes in Computer Science</i> , 2019, 11383, 92-104.	1.3	215
7	Epidermal Growth Factor Receptor Extracellular Domain Mutations in Glioblastoma Present Opportunities for Clinical Imaging and Therapeutic Development. <i>Cancer Cell</i> , 2018, 34, 163-177.e7.	16.8	145
8	Advanced magnetic resonance imaging in glioblastoma: a review. <i>Chinese Clinical Oncology</i> , 2017, 6, 40-40.	1.2	119
9	Cancer imaging phenomics toolkit: quantitative imaging analytics for precision diagnostics and predictive modeling of clinical outcome. <i>Journal of Medical Imaging</i> , 2018, 5, 1.	1.5	110
10	<i>In vivo</i> evaluation of EGFRvIII mutation in primary glioblastoma patients via complex multiparametric MRI signature. <i>Neuro-Oncology</i> , 2018, 20, 1068-1079.	1.2	90
11	<i>In Vivo</i> Detection of EGFRvIII in Glioblastoma via Perfusion Magnetic Resonance Imaging Signature Consistent with Deep Peritumoral Infiltration: The <i>I</i> -Index. <i>Clinical Cancer Research</i> , 2017, 23, 4724-4734.	7.0	79
12	ANHIR: Automatic Non-Rigid Histological Image Registration Challenge. <i>IEEE Transactions on Medical Imaging</i> , 2020, 39, 3042-3052.	8.9	75
13	GLISTRboost: Combining Multimodal MRI Segmentation, Registration, and Biophysical Tumor Growth Modeling with Gradient Boosting Machines for Glioma Segmentation. <i>Lecture Notes in Computer Science</i> , 2016, , 144-155.	1.3	61
14	Imaging signatures of glioblastoma molecular characteristics: A radiogenomics review. <i>Journal of Magnetic Resonance Imaging</i> , 2020, 52, 54-69.	3.4	61
15	Standardization in Quantitative Imaging: A Multicenter Comparison of Radiomic Features from Different Software Packages on Digital Reference Objects and Patient Data Sets. <i>Tomography</i> , 2020, 6, 118-128.	1.8	61
16	Histopathology-validated machine learning radiographic biomarker for noninvasive discrimination between true progression and pseudo- <i>progression</i> in glioblastoma. <i>Cancer</i> , 2020, 126, 2625-2636.	4.1	60
17	Segmentation and Classification in Digital Pathology for Glioma Research: Challenges and Deep Learning Approaches. <i>Frontiers in Neuroscience</i> , 2020, 14, 27.	2.8	54
18	Brain Lesions, Introduction. <i>Lecture Notes in Computer Science</i> , 2016, 9556, 1-5.	1.3	48

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19	Longitudinal brain tumor segmentation prediction in MRI using feature and label fusion. <i>Biomedical Signal Processing and Control</i> , 2020, 55, 101648.	5.7	42
20	Integrated Biophysical Modeling and Image Analysis: Application to Neuro-Oncology. <i>Annual Review of Biomedical Engineering</i> , 2020, 22, 309-341.	12.3	39
21	Brain extraction on MRI scans in presence of diffuse glioma: Multi-institutional performance evaluation of deep learning methods and robust modality-agnostic training. <i>NeuroImage</i> , 2020, 220, 117081.	4.2	35
22	Radiomics analysis for predicting pembrolizumab response in patients with advanced rare cancers. , 2021, 9, e001752.		34
23	The Cancer Imaging Phenomics Toolkit (CaPTk): Technical Overview. <i>Lecture Notes in Computer Science</i> , 2020, 11993, 380-394.	1.3	34
24	Brain Cancer Imaging Phenomics Toolkit (brain-CaPTk): An Interactive Platform for Quantitative Analysis of Glioblastoma. <i>Lecture Notes in Computer Science</i> , 2018, 10670, 133-145.	1.3	32
25	Precision diagnostics based on machine learning-derived imaging signatures. <i>Magnetic Resonance Imaging</i> , 2019, 64, 49-61.	1.8	31
26	AI-based prognostic imaging biomarkers for precision neuro-oncology: the ReSPOND consortium. <i>Neuro-Oncology</i> , 2020, 22, 886-888.	1.2	31
27	Multi-Disease Segmentation of Gliomas and White Matter Hyperintensities in the BraTS Data Using a 3D Convolutional Neural Network. <i>Frontiers in Computational Neuroscience</i> , 2019, 13, 84.	2.1	30
28	Applications of Radiomics and Radiogenomics in High-Grade Gliomas in the Era of Precision Medicine. <i>Cancers</i> , 2021, 13, 5921.	3.7	29
29	Segmentation of Gliomas in Pre-operative and Post-operative Multimodal Magnetic Resonance Imaging Volumes Based on a Hybrid Generative-Discriminative Framework. <i>Lecture Notes in Computer Science</i> , 2016, 10154, 184-194.	1.3	27
30	Systematic Evaluation of Image Tiling Adverse Effects on Deep Learning Semantic Segmentation. <i>Frontiers in Neuroscience</i> , 2020, 14, 65.	2.8	27
31	Cancer Imaging Phenomics via CaPTk: Multi-Institutional Prediction of Progression-Free Survival and Pattern of Recurrence in Glioblastoma. <i>JCO Clinical Cancer Informatics</i> , 2020, 4, 234-244.	2.1	26
32	Overall survival prediction in glioblastoma patients using structural magnetic resonance imaging (MRI): advanced radiomic features may compensate for lack of advanced MRI modalities. <i>Journal of Medical Imaging</i> , 2020, 7, 1.	1.5	26
33	Reproducibility analysis of multi-institutional paired expert annotations and radiomic features of the Ivy Glioblastoma Atlas Project (Ivy GAP) dataset. <i>Medical Physics</i> , 2020, 47, 6039-6052.	3.0	25
34	Analyzing magnetic resonance imaging data from glioma patients using deep learning. <i>Computerized Medical Imaging and Graphics</i> , 2021, 88, 101828.	5.8	23
35	Use of Fetal Magnetic Resonance Image Analysis and Machine Learning to Predict the Need for Postnatal Cerebrospinal Fluid Diversion in Fetal Ventriculomegaly. <i>JAMA Pediatrics</i> , 2018, 172, 128.	6.2	20
36	Brain extraction from normal and pathological images: A joint PCA/Image-Reconstruction approach. <i>NeuroImage</i> , 2018, 176, 431-445.	4.2	20

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37	Clinical measures, radiomics, and genomics offer synergistic value in AI-based prediction of overall survival in patients with glioblastoma. <i>Scientific Reports</i> , 2022, 12, .	3.3	20
38	Fast semi-automatic segmentation of focal liver lesions in contrast-enhanced ultrasound, based on a probabilistic model. <i>Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization</i> , 2017, 5, 329-338.	1.9	14
39	Correlations of atrial diameter and frontooccipital horn ratio with ventricle size in fetal ventriculomegaly. <i>Journal of Neurosurgery: Pediatrics</i> , 2017, 19, 300-306.	1.3	12
40	iGLASS: imaging integration into the Glioma Longitudinal Analysis Consortium. <i>Neuro-Oncology</i> , 2020, 22, 1545-1546.	1.2	12
41	Multi-institutional noninvasive in vivo characterization of IDH</i>, 1p/19q, and EGFRvIII in glioma using neuro-Cancer Imaging Phenomics Toolkit (neuro-CaPTk). <i>Neuro-Oncology Advances</i> , 2020, 2, iv22-iv34.	0.7	12
42	Skull-Stripping of Glioblastoma MRI Scans Using 3D Deep Learning. <i>Lecture Notes in Computer Science</i> , 2020, 11992, 57-68.	1.3	11
43	Quantifying T2-FLAIR Mismatch Using Geographically Weighted Regression and Predicting Molecular Status in Lower-Grade Gliomas. <i>American Journal of Neuroradiology</i> , 2022, 43, 33-39.	2.4	11
44	NIMG-20. IMAGING PATTERN ANALYSIS REVEALS THREE DISTINCT PHENOTYPIC SUBTYPES OF GBM WITH DIFFERENT SURVIVAL RATES. <i>Neuro-Oncology</i> , 2016, 18, vi128-vi128.	1.2	10
45	Multi-stage Association Analysis of Glioblastoma Gene Expressions with Texture and Spatial Patterns. <i>Lecture Notes in Computer Science</i> , 2019, 11383, 239-250.	1.3	9
46	Spot the Best Frame: Towards Intelligent Automated Selection of the Optimal Frame for Initialisation of Focal Liver Lesion Candidates in Contrast-Enhanced Ultrasound Video Sequences. , 2013, , .		8
47	Accurate and Robust Alignment of Differently Stained Histologic Images Based on Greedy Diffeomorphic Registration. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 1892.	2.5	8
48	MPTH-02. EXTRACELLULAR EGFR289 ACTIVATING MUTATIONS CONFER POORER SURVIVAL AND SUGGEST ENHANCED MOTILITY IN PRIMARY GBMs. <i>Neuro-Oncology</i> , 2016, 18, vi105-vi106.	1.2	7
49	NIMG-70. QUANTITATIVE IMAGE ANALYSIS AND MACHINE LEARNING TECHNIQUES FOR DISTINGUISHING TRUE PROGRESSION FROM PSEUDOPROGRESSION IN PATIENTS WITH GLIOBLASTOMA. <i>Neuro-Oncology</i> , 2018, 20, vi191-vi192.	1.2	7
50	Evaluation of Indirect Methods for Motion Compensation in 2-D Focal Liver Lesion Contrast-Enhanced Ultrasound (CEUS) Imaging. <i>Ultrasound in Medicine and Biology</i> , 2019, 45, 1380-1396.	1.5	7
51	A Deep Network for Joint Registration and Reconstruction of Images with Pathologies. <i>Lecture Notes in Computer Science</i> , 2020, 12436, 342-352.	1.3	7
52	Automatic Identification of the Optimal Reference Frame for Segmentation and Quantification of Focal Liver Lesions in Contrast-Enhanced Ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2017, 43, 2438-2451.	1.5	6
53	NIMG-40. NON-INVASIVE IN VIVO SIGNATURE OF IDH1 MUTATIONAL STATUS IN HIGH GRADE GLIOMA, FROM CLINICALLY-ACQUIRED MULTI-PARAMETRIC MAGNETIC RESONANCE IMAGING, USING MULTIVARIATE MACHINE LEARNING. <i>Neuro-Oncology</i> , 2018, 20, vi184-vi185.	1.2	6
54	Focal Liver Lesion Tracking in CEUS for Characterisation Based on Dynamic Behaviour. <i>Lecture Notes in Computer Science</i> , 2012, , 32-41.	1.3	6

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55	Non-invasive determination of the O6-methylguanine-DNA-methyltransferase (MGMT) promoter methylation status in glioblastoma (GBM) using magnetic resonance imaging (MRI).. Journal of Clinical Oncology, 2018, 36, 2051-2051.	1.6	6
56	Patient-Specific Registration of Pre-operative and Post-recurrence Brain Tumor MRI Scans. Lecture Notes in Computer Science, 2019, 11383, 105-114.	1.3	6
57	Classification of Infection and Ischemia in Diabetic Foot Ulcers Using VGG Architectures. Lecture Notes in Computer Science, 2022, 13183, 76-89.	1.3	6
58	NIMG-32. THE FEDERATED TUMOR SEGMENTATION (FETS) INITIATIVE: THE FIRST REAL-WORLD LARGE-SCALE DATA-PRIVATE COLLABORATION FOCUSING ON NEURO-ONCOLOGY. Neuro-Oncology, 2021, 23, vi135-vi136.	1.2	6
59	NIMG-05 IDENTIFICATION OF IMAGING SIGNATURES OF THE EPIDERMAL GROWTH FACTOR RECEPTOR VARIANT III (EGFRvIII) IN GLIOBLASTOMA. Neuro-Oncology, 2015, 17, v154.1-v154.	1.2	5
60	NIMG-11. HIGHLY-EXPRESSED WILD-TYPE EGFR AND EGFRvIII MUTANT GLIOBLASTOMAS HAVE SIMILAR MRI SIGNATURE, CONSISTENT WITH DEEP PERITUMORAL INFILTRATION. Neuro-Oncology, 2016, 18, vi125-vi126.	1.2	5
61	Multivariate Analysis of Preoperative Magnetic Resonance Imaging Reveals Transcriptomic Classification of de novo Glioblastoma Patients. Frontiers in Computational Neuroscience, 2019, 13, 81.	2.1	5
62	Interactive Machine Learning-Based Multi-Label Segmentation of Solid Tumors and Organs. Applied Sciences (Switzerland), 2021, 11, 7488.	2.5	5
63	Abstract 1392: Machine Learning Radiomic Biomarkers Non-invasively Assess Genetic Characteristics of Glioma Patients. Cancer Research, 2019, 79, 1392-1392.	0.9	4
64	Integrative radiomic analysis for pre-surgical prognostic stratification of glioblastoma patients: from advanced to basic MRI protocols. , 2020, 11315, .		4
65	Clinically Deployed Computational Assessment of Multiple Sclerosis Lesions. Frontiers in Medicine, 2022, 9, 797586.	2.6	4
66	Robust, Primitive, and Unsupervised Quality Estimation for Segmentation Ensembles. Frontiers in Neuroscience, 2021, 15, 752780.	2.8	4
67	NIMG-38. QUANTITATIVE IMAGING PREDICTORS OF OVERALL SURVIVAL IN GLIOBLASTOMA PATIENTS ROBUST IN THE PRESENCE OF INTER-SCANNER VARIATIONS. Neuro-Oncology, 2018, 20, vi184-vi184.	1.2	3
68	Computational staining of unlabelled tissue. Nature Biomedical Engineering, 2019, 3, 425-426.	22.5	3
69	NIMG-68. FEDERATED LEARNING IN NEURO-ONCOLOGY FOR MULTI-INSTITUTIONAL COLLABORATIONS WITHOUT SHARING PATIENT DATA. Neuro-Oncology, 2019, 21, vi176-vi177.	1.2	3
70	NIMG-66. AI-BASED PROGNOSTIC IMAGING BIOMARKERS FOR PRECISION NEUROONCOLOGY AND THE RESPOND CONSORTIUM. Neuro-Oncology, 2020, 22, ii162-ii163.	1.2	3
71	Towards Population-Based Histologic Stain Normalization of Glioblastoma. Lecture Notes in Computer Science, 2020, 11992, 44-56.	1.3	3
72	O-Net: An Overall Convolutional Network for Segmentation Tasks. Lecture Notes in Computer Science, 2020, 12436, 199-209.	1.3	3

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73	NIMG-22. PREDICTION OF GLIOBLASTOMA CELLULAR INFILTRATION AND RECURRENCE USING MACHINE LEARNING AND MULTI-PARAMETRIC MRI ANALYSIS: RESULTS FROM THE MULTI-INSTITUTIONAL RESPOND CONSORTIUM. <i>Neuro-Oncology</i> , 2021, 23, vi132-vi133.	1.2	3
74	NIMG-73. CAPTURING GLIOBLASTOMA HETEROGENEITY USING IMAGING AND DEEP LEARNING: APPLICATION TO MGMT PROMOTER METHYLATION. <i>Neuro-Oncology</i> , 2021, 23, vi146-vi146.	1.2	3
75	SCDT-37. MODULATION OF CONVECTION ENHANCED DELIVERY (CED) DISTRIBUTION USING FOCUSED ULTRASOUND (FUS). <i>Neuro-Oncology</i> , 2017, 19, vi272-vi272.	1.2	2
76	NIMG-40. ROBUST MODALITY-AGNOSTIC SKULL-STRIPPING IN PRESENCE OF DIFFUSE GLIOMA: A MULTI-INSTITUTIONAL STUDY. <i>Neuro-Oncology</i> , 2019, 21, vi170-vi170.	1.2	2
77	Advanced Magnetic Resonance Imaging in Glioblastoma: A Review. <i>JHN Journal</i> , 2018, 13, .	0.0	2
78	NIMG-07. UNIFYING MAGNETIC RESONANCE IMAGING SIGNATURE OF EGFR PATHWAY ACTIVATION IN GLIOBLASTOMA CONSISTENT WITH UNIFORMLY AGGRESSIVELY INFILTRATION. <i>Neuro-Oncology</i> , 2017, 19, vi143-vi143.	1.2	1
79	EXTH-56. EGFR EXTRACELLULAR DOMAIN POINT MUTANT A289V: A THERAPEUTICALLY TARGETABLE DRIVER OF GLIOBLASTOMA INVASION. <i>Neuro-Oncology</i> , 2017, 19, vi85-vi85.	1.2	1
80	NIMG-35. QUANTITATIVE ESTIMATION OF PROGRESSION-FREE SURVIVAL BASED ON RADIOMICS ANALYSIS OF PREOPERATIVE MULTI-PARAMETRIC MRI IN PATIENTS WITH GLIOBLASTOMA. <i>Neuro-Oncology</i> , 2019, 21, vi168-vi169.	1.2	1
81	Estimating Glioblastoma Biophysical Growth Parameters Using Deep Learning Regression. <i>Lecture Notes in Computer Science</i> , 2021, 12658, 157-167.	1.3	1
82	Deriving stable multi-parametric MRI radiomic signatures in the presence of inter-scanner variations: survival prediction of glioblastoma via imaging pattern analysis and machine learning techniques. , 2018, , .		1
83	Tumor segmentation. , 2019, , 99-114.		1
84	EPCO-25. MULTI-OMICS DISEASE STRATIFICATION IN PATIENTS WITH IDH-WILDTYPE GLIOBLASTOMA: SYNERGISTIC VALUE OF CLINICAL MEASURES, CONVENTIONAL AND DEEP RADIOMICS, AND GENOMICS FOR PREDICTION OF OVERALL SURVIVAL. <i>Neuro-Oncology</i> , 2021, 23, vi7-vi7.	1.2	1
85	TMOD-09. GLIOBLASTOMA BIOPHYSICAL GROWTH ESTIMATION USING DEEP LEARNING-BASED REGRESSION. <i>Neuro-Oncology</i> , 2020, 22, ii229-ii229.	1.2	1
86	Enhancing the REMBRANDT MRI collection with expert segmentation labels and quantitative radiomic features. <i>Scientific Data</i> , 2022, 9, .	5.3	1
87	Making the Best Use of Fifty (or More) Shades of Gray: Intelligent Contrast Optimisation for Image Segmentation in False-Colour Video. , 2014, , .		0
88	NIMG-44. QUANTITATIVE MULTI-PARAMETRIC IMAGE PROFILING REVEALS REMARKABLE HETEROGENEITY WITHIN IDH-WILDTYPE GLIOBLASTOMA, OFFERING PROGNOSTIC STRATIFICATION BEYOND CURRENT WHO CLASSIFICATIONS. <i>Neuro-Oncology</i> , 2018, 20, vi186-vi186.	1.2	0
89	CSIG-25. EPIDERMAL GROWTH FACTOR RECEPTOR EXTRACELLULAR DOMAIN MISSENSE MUTATION A289V AS A DRIVER OF GLIOBLASTOMA INVASION AND PROLIFERATION. <i>Neuro-Oncology</i> , 2018, 20, vi48-vi48.	1.2	0
90	NIMG-45. MULTIVARIATE PATTERN ANALYSIS OF DE NOVO GLIOBLASTOMA PATIENTS OFFERS IN VIVO EVALUATION OF O6-METHYLGUANINE-DNA-METHYLTRANSFERASE (MGMT) PROMOTER METHYLATION STATUS, COMPENSATING FOR INSUFFICIENT SPECIMEN AND ASSAY FAILURES. <i>Neuro-Oncology</i> , 2018, 20, vi186-vi186.	1.2	0

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91	NIMG-59. ADVERSE EFFECTS OF IMAGE TILING FOR AUTOMATIC DEEP LEARNING GLIOMA SEGMENTATION IN MRI. <i>Neuro-Oncology</i> , 2019, 21, vi174-vi174.	1.2	0
92	Author response to Cunha <i>et al</i> . , 2021, 9, e003299.		0
93	Non-invasive transcriptomic classification of de novo Glioblastoma patients through multivariate quantitative analysis of baseline preoperative multimodal magnetic resonance imaging. , 2019, , .		0
94	NIMG-28. PROSPECTIVE HISTOPATHOLOGY-VALIDATED MACHINE LEARNING FOR DISTINGUISHING TRUE PROGRESSION FROM TREATMENT-RELATED CHANGES IN GLIOBLASTOMA PATIENTS. <i>Neuro-Oncology</i> , 2021, 23, vi134-vi135.	1.2	0
95	EPCO-09. LONGITUDINAL ANALYSIS OF DIFFUSE GLIOMA REVEALS CELL STATE DYNAMICS AT RECURRENCE ASSOCIATED WITH CHANGES IN GENETICS AND THE MICROENVIRONMENT. <i>Neuro-Oncology</i> , 2021, 23, vi3-vi3.	1.2	0
96	NIMG-55. AUGMENTED INTELLIGENCE IS SUPERIOR TO ARTIFICIAL INTELLIGENCE! HUMAN-COMPUTER SYNERGY FOR GENERATING HIGH QUALITY GLIOBLASTOMA SUB-REGION SEGMENTATIONS. <i>Neuro-Oncology</i> , 2021, 23, vi141-vi142.	1.2	0
97	EPID-20. NOVEL GLIOBLASTOMA POPULATION-BASED HISTOLOGIC STAIN NORMALIZATION. <i>Neuro-Oncology</i> , 2020, 22, ii82-ii83.	1.2	0
98	NIMG-40. RADIOGENOMIC SIGNATURES OF DRIVER GENES IN NEWLY DIAGNOSED GLIOBLASTOMA PATIENTS BASED ON PRE-OPERATIVE MULTI-PARAMETRIC MRI. <i>Neuro-Oncology</i> , 2020, 22, ii156-ii157.	1.2	0
99	NIMG-09. PREDICTING OVERALL SURVIVAL OF GLIOBLASTOMA PATIENTS ON MULTI-INSTITUTIONAL HISTOPATHOLOGY STAINED SLIDES USING DEEP LEARNING AND POPULATION-BASED NORMALIZATION. <i>Neuro-Oncology</i> , 2020, 22, ii148-ii148.	1.2	0
100	NIMG-58. CANONICAL CORRELATION ANALYSIS IN GLIOBLASTOMA REVEALS ASSOCIATIONS BETWEEN EXPRESSION OF RADIOMIC SIGNATURES AND GENOMICS. <i>Neuro-Oncology</i> , 2021, 23, vi142-vi142.	1.2	0
101	NIMG-52. RADIOGENOMICS SIGNATURES IN KEY DRIVER GENES IN GLIOBLASTOMA EVALUATED WITH AND WITHOUT THE PRESENCE OF CO-OCCURRING MUTATIONS. <i>Neuro-Oncology</i> , 2021, 23, vi141-vi141.	1.2	0
102	NIMG-39. RADIOMIC ANALYSIS FOR NON-INVASIVE IN VIVO PROGNOSTIC STRATIFICATION OF DE NOVO GLIOBLASTOMA PATIENTS: A MULTI-INSTITUTIONAL EVALUATION FOR GENERALIZABILITY IN THE RESPOND CONSORTIUM. <i>Neuro-Oncology</i> , 2021, 23, vi137-vi137.	1.2	0
103	Abstract 1392: Machine Learning Radiomic Biomarkers Non-invasively Assess Genetic Characteristics of Glioma Patients. , 2019, , .		0