Songbai Ji

List of Publications by Year
in descending order

73 papers	2,589 citations	185998 28 h-index	197535 49 g-index
73 all docs	73 docs citations	73 times ranked	2016 citing authors

#	Article	IF	Citations
1	Quantitative fluorescence in intracranial tumor: implications for ALA-induced PpIX as an intraoperative biomarker. Journal of Neurosurgery, 2011, 115, 11-17.	0.9	279
2	Coregistered fluorescence-enhanced tumor resection of malignant glioma: relationships between δ-aminolevulinic acid–induced protoporphyrin IX fluorescence, magnetic resonance imaging enhancement, and neuropathological parameters. Journal of Neurosurgery, 2011, 114, 595-603.	0.9	250
3	Maximum Principal Strain and Strain Rate Associated with Concussion Diagnosis Correlates with Changes in Corpus Callosum White Matter Indices. Annals of Biomedical Engineering, 2012, 40, 127-140.	1.3	198
4	Group-Wise Evaluation and Comparison of White Matter Fiber Strain and Maximum Principal Strain in Sports-Related Concussion. Journal of Neurotrauma, 2015, 32, 441-454.	1.7	143
5	Head impact accelerations for brain strain-related responses in contact sports: a model-based investigation. Biomechanics and Modeling in Mechanobiology, 2014, 13, 1121-1136.	1.4	83
6	Parametric Comparisons of Intracranial Mechanical Responses from Three Validated Finite Element Models of the Human Head. Annals of Biomedical Engineering, 2014, 42, 11-24.	1.3	82
7	Characterizing white matter tissue in large strain via asymmetric indentation and inverse finite element modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 490-501.	1.5	71
8	Injury prediction and vulnerability assessment using strain and susceptibility measures of the deep white matter. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1709-1727.	1.4	69
9	Parametric study of head impact in the infant. Stapp Car Crash Journal, 2007, 51, 1-15.	1.1	68
10	Material properties of the brain in injury-relevant conditions – Experiments and computational modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 80, 222-234.	1.5	63
11	White Matter Anisotropy for Impact Simulation and Response Sampling in Traumatic Brain Injury. Journal of Neurotrauma, 2019, 36, 250-263.	1.7	63
12	Ranking and Rating Bicycle Helmet Safety Performance in Oblique Impacts Using Eight Different Brain Injury Models. Annals of Biomedical Engineering, 2021, 49, 1097-1109.	1.3	59
13	Mutual-information-based image to patient re-registration using intraoperative ultrasound in image-guided neurosurgery. Medical Physics, 2008, 35, 4612-4624.	1.6	58
14	White Matter Injury Susceptibility via Fiber Strain Evaluation Using Whole-Brain Tractography. Journal of Neurotrauma, 2016, 33, 1834-1847.	1.7	58
15	Estimation of Brain Deformation for Volumetric Image Updating in Protoporphyrin IX Fluorescence-Guided Resection. Stereotactic and Functional Neurosurgery, 2010, 88, 1-10.	0.8	49
16	A Pre-computed Brain Response Atlas for Instantaneous Strain Estimation in Contact Sports. Annals of Biomedical Engineering, 2015, 43, 1877-1895.	1.3	43
17	Displacement- and Strain-Based Discrimination of Head Injury Models across a Wide Range of Blunt Conditions. Annals of Biomedical Engineering, 2020, 48, 1661-1677.	1.3	43
18	Estimated Brain Tissue Response Following Impacts Associated With and Without Diagnosed Concussion. Annals of Biomedical Engineering, 2018, 46, 819-830.	1.3	42

#	Article	IF	Citations
19	Cortical surface shift estimation using stereovision and optical flow motion tracking via projection image registration. Medical Image Analysis, 2014, 18, 1169-1183.	7.0	41
20	Brain pressure responses in translational head impact: a dimensional analysis and a further computational study. Biomechanics and Modeling in Mechanobiology, 2015, 14, 753-766.	1.4	39
21	Instantaneous Whole-Brain Strain Estimation in Dynamic Head Impact. Journal of Neurotrauma, 2021, 38, 1023-1035.	1.7	38
22	Automated subject-specific, hexahedral mesh generation via image registration. Finite Elements in Analysis and Design, 2011, 47, 1178-1185.	1.7	36
23	Mesh Convergence Behavior and the Effect of Element Integration of a HumanÂHead Injury Model. Annals of Biomedical Engineering, 2019, 47, 475-486.	1.3	36
24	Multiscale modeling in the clinic: diseases of the brain and nervous system. Brain Informatics, 2017, 4, 219-230.	1.8	33
25	Convolutional neural network for efficient estimation of regional brain strains. Scientific Reports, 2019, 9, 17326.	1.6	33
26	In vivo pons motion within the skull. Journal of Biomechanics, 2007, 40, 92-99.	0.9	32
27	Data assimilation using a gradient descent method for estimation of intraoperative brain deformation. Medical Image Analysis, 2009, 13, 744-756.	7.0	32
28	Brain strain uncertainty due to shape variation in and simplification of head angular velocity profiles. Biomechanics and Modeling in Mechanobiology, 2017, 16, 449-461.	1.4	32
29	A network-based responseÂfeature matrix as a brain injury metric. Biomechanics and Modeling in Mechanobiology, 2020, 19, 927-942.	1.4	31
30	Brainâ€"skull contact boundary conditions in an inverse computational deformation model. Medical Image Analysis, 2009, 13, 659-672.	7.0	30
31	Concussion classification via deep learning using whole-brain white matter fiber strains. PLoS ONE, 2018, 13, e0197992.	1.1	30
32	Intraoperative image updating for brain shift following dural opening. Journal of Neurosurgery, 2016, 126, 1924-1933.	0.9	27
33	Incorporation of vasculature in a head injury model lowers local mechanical strains in dynamic impact. Journal of Biomechanics, 2020, 104, 109732.	0.9	27
34	In vivo measurements of human brain displacement. Stapp Car Crash Journal, 2004, 48, 227-37.	1.1	26
35	Patient Registration Using Intraoperative Stereovision in Image-guided Open Spinal Surgery. IEEE Transactions on Biomedical Engineering, 2015, 62, 2177-2186.	2.5	25
36	Performance Evaluation of a Pre-computed Brain Response Atlas in Dummy Head Impacts. Annals of Biomedical Engineering, 2017, 45, 2437-2450.	1.3	24

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37	Propagation of errors from skull kinematic measurements to finite element tissue responses. Biomechanics and Modeling in Mechanobiology, 2018, 17, 235-247.	1.4	20
38	Nonlinear Dynamical Behavior of the Deep White Matter during Head Impact. Physical Review Applied, 2019, 12, .	1.5	20
39	Medical Image Computing and Computer-Assisted Intervention â€" MICCAI 2009. Lecture Notes in Computer Science, 2009, 12, 795-802.	1.0	20
40	Image Updating for Brain Shift Compensation During Resection. Operative Neurosurgery, 2018, 14, 402-411.	0.4	19
41	Stereovision to MR image registration for cortical surface displacement mapping to enhance imageâ€guided neurosurgery. Medical Physics, 2014, 41, 102302.	1.6	18
42	Augmenting Surgery via Multi-scale Modeling and Translational Systems Biology in the Era of Precision Medicine: A Multidisciplinary Perspective. Annals of Biomedical Engineering, 2016, 44, 2611-2625.	1.3	16
43	Adaptive spatial calibration of a 3D ultrasound system. Medical Physics, 2010, 37, 2121-2130.	1.6	12
44	A computational study of invariant I5 in a nearly incompressible transversely isotropic model for white matter. Journal of Biomechanics, 2017, 57, 146-151.	0.9	12
45	Displacement Error Propagation From Embedded Markers to Brain Strain. Journal of Biomechanical Engineering, 2021, 143, .	0.6	12
46	Cortical Surface Strain Estimation Using Stereovision. Lecture Notes in Computer Science, 2011, 14, 412-419.	1.0	12
47	Cerebral vascular strains in dynamic head impact using an upgraded model with brain material property heterogeneity. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 126, 104967.	1.5	12
48	Real-time dynamic simulation for highly accurate spatiotemporal brain deformation from impact. Computer Methods in Applied Mechanics and Engineering, 2022, 394, 114913.	3.4	12
49	Intraoperative fiducial-less patient registration using volumetric 3D ultrasound: a prospective series of 32 neurosurgical cases. Journal of Neurosurgery, 2015, 123, 721-731.	0.9	11
50	Real-time, whole-brain, temporally resolved pressure responses in translational head impact. Interface Focus, 2016, 6, 20150091.	1.5	11
51	Real-time Interpolation for True 3-Dimensional Ultrasound Image Volumes. Journal of Ultrasound in Medicine, 2011, 30, 243-252.	0.8	10
52	Intraoperative patient registration using volumetric true 3D ultrasound without fiducials. Medical Physics, 2012, 39, 7540-7552.	1.6	9
53	A modified fuzzy C-means method for segmenting MR images using non-local information. Technology and Health Care, 2016, 24, S785-S793.	0.5	9
54	Displacement voxelization to resolve mesh-image mismatch: Application in deriving dense white matter fiber strains. Computer Methods and Programs in Biomedicine, 2022, 213, 106528.	2.6	8

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55	Dynamic characteristics of impact-induced brain strain in the corpus callosum. Brain Multiphysics, 2022, 3, 100046.	0.8	8
56	Influence of morphological variation on brain impact responses among youth and young adults. Journal of Biomechanics, 2022, 135, 111036.	0.9	8
57	Hand-Held Stereovision System for Image Updating in Open Spine Surgery. Operative Neurosurgery, 2020, 19, 461-470.	0.4	7
58	Intraoperative CT as a registration benchmark for intervertebral motion compensation in image-guided open spinal surgery. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 2009-2020.	1.7	6
59	Use of Stereovision for Intraoperative Coregistration of a Spinal Surgical Field: A Human Feasibility Study. Operative Neurosurgery, 2018, 14, 29-35.	0.4	4
60	A level-wise spine registration framework to account for large pose changes. International Journal of Computer Assisted Radiology and Surgery, 2021, 16, 943-953.	1.7	3
61	Effective Head Impact Kinematics to Preserve Brain Strain. Annals of Biomedical Engineering, 2021, 49, 2777-2790.	1.3	3
62	Instantaneous Brain Strain Estimation for Automotive Head Impacts *via* Deep Learning. , 2021, 65, 139-162.		3
63	Stereovision Co-Registration in Image-Guided Spinal Surgery: Accuracy Assessment Using Explanted Porcine Spines. Operative Neurosurgery, 2018, 15, 686-691.	0.4	2
64	Calibration of a hand-held stereovision system for image-guided spinal surgery. , 2019, , .		2
65	Automatic geometric rectification for patient registration in image-guided spinal surgery. Proceedings of SPIE, 2016, , .	0.8	1
66	Biomechanics and Biomechatronics in Sports, Exercise, and Entertainment. , 2019, , 451-494.		1
67	Multiscale Mechanobiology of Brain Injury: Axonal Strain Redistribution. Biophysical Journal, 2020, 119, 1273-1274.	0.2	1
68	Stereovision-updated image guidance in multi-level open spine surgery: short vs. long exposure. , 2020, , .		1
69	Accuracy of Stereovision-Updated Versus Preoperative CT-Based Image Guidance in Multilevel Lumbar Pedicle Screw Placement. JBJS Open Access, 2022, 7, .	0.8	1
70	Preoperative-to-interoperative shift in spine pose measured as change in lordosis Cobb angle and its effect on navigational accuracy. , 2022, , .		1
71	Biomechanical Modeling of Traumatic Brain Injury. , 2022, , 460-463.		1
72	Biomechanical Modeling of Traumatic Brain Injury. , 2018, , 1-4.		0

#	Article	IF	Citations
73	Video data acquisition accuracy for hand-held stereovision in image-guided surgery. , 2022, , .		0