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	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
2	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
3	Accuracy of Stereovision-Updated Versus Preoperative CT-Based Image Guidance in Multilevel Lumbar Pedicle Screw Placement. JBJS Open Access, 2022, 7, .	0.8	1
4	Dynamic characteristics of impact-induced brain strain in the corpus callosum. Brain Multiphysics, 2022, 3, 100046.	0.8	8
5	Video data acquisition accuracy for hand-held stereovision in image-guided surgery. , 2022, , .		0
6	Preoperative-to-interoperative shift in spine pose measured as change in lordosis Cobb angle and its effect on navigational accuracy. , 2022, , .		1
7	Influence of morphological variation on brain impact responses among youth and young adults. Journal of Biomechanics, 2022, 135, 111036.	0.9	8
8	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
9	Biomechanical Modeling of Traumatic Brain Injury. , 2022, , 460-463.		1
10	Instantaneous Whole-Brain Strain Estimation in Dynamic Head Impact. Journal of Neurotrauma, 2021, 38, 1023-1035.	1.7	38
11	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
12	Displacement Error Propagation From Embedded Markers to Brain Strain. Journal of Biomechanical Engineering, 2021, 143, .	0.6	12
13	Effective Head Impact Kinematics to Preserve Brain Strain. Annals of Biomedical Engineering, 2021, 49, 2777-2790.	1.3	3
14	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
15	Instantaneous Brain Strain Estimation for Automotive Head Impacts via Deep Learning. , 2021, 65, 139-162.		3
16	A network-based responseÂfeature matrix as a brain injury metric. Biomechanics and Modeling in Mechanobiology, 2020, 19, 927-942.	1.4	31
17	Multiscale Mechanobiology of Brain Injury: Axonal Strain Redistribution. Biophysical Journal, 2020, 119, 1273-1274.	0.2	1
18	Hand-Held Stereovision System for Image Updating in Open Spine Surgery. Operative Neurosurgery, 2020, 19, 461-470.	0.4	7

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19	Incorporation of vasculature in a head injury model lowers local mechanical strains in dynamic impact. Journal of Biomechanics, 2020, 104, 109732.	0.9	27
20	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
21	Stereovision-updated image guidance in multi-level open spine surgery: short vs. long exposure. , 2020, , .		1
22	Nonlinear Dynamical Behavior of the Deep White Matter during Head Impact. Physical Review Applied, 2019, 12, .	1.5	20
23	Biomechanics and Biomechatronics in Sports, Exercise, and Entertainment. , 2019, , 451-494.		1
24	Convolutional neural network for efficient estimation of regional brain strains. Scientific Reports, 2019, 9, 17326.	1.6	33
25	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
26	White Matter Anisotropy for Impact Simulation and Response Sampling in Traumatic Brain Injury. Journal of Neurotrauma, 2019, 36, 250-263.	1.7	63
27	Calibration of a hand-held stereovision system for image-guided spinal surgery. , 2019, , .		2
28	Estimated Brain Tissue Response Following Impacts Associated With and Without Diagnosed Concussion. Annals of Biomedical Engineering, 2018, 46, 819-830.	1.3	42
29	Material properties of the brain in injury-relevant conditions â€“ Experiments and computational modeling. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 80, 222-234.	1.5	63
30	Stereovision Co-Registration in Image-Guided Spinal Surgery: Accuracy Assessment Using Explanted Porcine Spines. Operative Neurosurgery, 2018, 15, 686-691.	0.4	2
31	Image Updating for Brain Shift Compensation During Resection. Operative Neurosurgery, 2018, 14, 402-411.	0.4	19
32	Propagation of errors from skull kinematic measurements to finite element tissue responses. Biomechanics and Modeling in Mechanobiology, 2018, 17, 235-247.	1.4	20
33	Use of Stereovision for Intraoperative Coregistration of a Spinal Surgical Field: A Human Feasibility Study. Operative Neurosurgery, 2018, 14, 29-35.	0.4	4
34	Concussion classification via deep learning using whole-brain white matter fiber strains. PLoS ONE, 2018, 13, e0197992.	1.1	30
35	Biomechanical Modeling of Traumatic Brain Injury. , 2018, , 1-4.		0
36	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

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37	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
38	Multiscale modeling in the clinic: diseases of the brain and nervous system. Brain Informatics, 2017, 4, 219-230.	1.8	33
39	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
40	Performance Evaluation of a Pre-computed Brain Response Atlas in Dummy Head Impacts. Annals of Biomedical Engineering, 2017, 45, 2437-2450.	1.3	24
41	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
42	Automatic geometric rectification for patient registration in image-guided spinal surgery. Proceedings of SPIE, 2016, , .	0.8	1
43	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
44	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
45	Intraoperative image updating for brain shift following dural opening. Journal of Neurosurgery, 2016, 126, 1924-1933.	0.9	27
46	White Matter Injury Susceptibility via Fiber Strain Evaluation Using Whole-Brain Tractography. Journal of Neurotrauma, 2016, 33, 1834-1847.	1.7	58
47	Real-time, whole-brain, temporally resolved pressure responses in translational head impact. Interface Focus, 2016, 6, 20150091.	1.5	11
48	A Pre-computed Brain Response Atlas for Instantaneous Strain Estimation in Contact Sports. Annals of Biomedical Engineering, 2015, 43, 1877-1895.	1.3	43
49	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
50	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
51	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
52	Patient Registration Using Intraoperative Stereovision in Image-guided Open Spinal Surgery. IEEE Transactions on Biomedical Engineering, 2015, 62, 2177-2186.	2.5	25
53	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
54	Stereovision to MR image registration for cortical surface displacement mapping to enhance imageâ€guided neurosurgery. Medical Physics, 2014, 41, 102302.	1.6	18

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55	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
56	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
57	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
58	Intraoperative patient registration using volumetric true 3D ultrasound without fiducials. Medical Physics, 2012, 39, 7540-7552.	1.6	9
59	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
60	Real-time Interpolation for True 3-Dimensional Ultrasound Image Volumes. Journal of Ultrasound in Medicine, 2011, 30, 243-252.	0.8	10
61	Automated subject-specific, hexahedral mesh generation via image registration. Finite Elements in Analysis and Design, 2011, 47, 1178-1185.	1.7	36
62	Quantitative fluorescence in intracranial tumor: implications for ALA-induced PpIX as an intraoperative biomarker. Journal of Neurosurgery, 2011, 115, 11-17.	0.9	279
63	Coregistered fluorescence-enhanced tumor resection of malignant glioma: relationships between Î´-aminolevulinic acidâ€“induced protoporphyrin IX fluorescence, magnetic resonance imaging enhancement, and neuropathological parameters. Journal of Neurosurgery, 2011, 114, 595-603.	0.9	250
64	Cortical Surface Strain Estimation Using Stereovision. Lecture Notes in Computer Science, 2011, 14, 412-419.	1.0	12
65	Adaptive spatial calibration of a 3D ultrasound system. Medical Physics, 2010, 37, 2121-2130.	1.6	12
66	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
67	Brainâ€“skull contact boundary conditions in an inverse computational deformation model. Medical Image Analysis, 2009, 13, 659-672.	7.0	30
68	Data assimilation using a gradient descent method for estimation of intraoperative brain deformation. Medical Image Analysis, 2009, 13, 744-756.	7.0	32
69	Medical Image Computing and Computer-Assisted Intervention â€“ MICCAI 2009. Lecture Notes in Computer Science, 2009, 12, 795-802.	1.0	20
70	Mutualâ€informationâ€based image to patient reâ€registration using intraoperative ultrasound in imageâ€guided neurosurgery. Medical Physics, 2008, 35, 4612-4624.	1.6	58
71	In vivo pons motion within the skull. Journal of Biomechanics, 2007, 40, 92-99.	0.9	32
72	Parametric study of head impact in the infant. Stapp Car Crash Journal, 2007, 51, 1-15.	1.1	68

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73	In vivo measurements of human brain displacement. Stapp Car Crash Journal, 2004, 48, 227-37.	1.1	26