Zhongzhao Teng

List of Publications by Year
in descending order

102 papers	3,704 citations	31 h-index	56 g-index
103 all docs	103 docs citations	103 times ranked	4180 citing authors

#	Article	IF	Citations
1	Common pitfalls and recommendations for using machine learning to detect and prognosticate for COVID-19 using chest radiographs and CT scans. Nature Machine Intelligence, 2021, 3, 199-217.	8.3	607
2	The role of imaging in 2019 novel coronavirus pneumonia (COVID-19). European Radiology, 2020, 30, 4874-4882.	2.3	223
3	Role of biomechanical forces in the natural history of coronary atherosclerosis. Nature Reviews Cardiology, 2016, 13, 210-220.	6.1	193
4	Sites of Rupture in Human Atherosclerotic Carotid Plaques Are Associated With High Structural Stresses. Stroke, 2009, 40, 3258-3263.	1.0	165
5	An experimental study on the ultimate strength of the adventitia and media of human atherosclerotic carotid arteries in circumferential and axial directions. Journal of Biomechanics, 2009, 42, 2535-2539.	0.9	99
6	<i>In Vivo</i> IVUS-Based 3-D Fluidâ€"Structure Interaction Models With Cyclic Bending and Anisotropic Vessel Properties for Human Atherosclerotic Coronary Plaque Mechanical Analysis. IEEE Transactions on Biomedical Engineering, 2009, 56, 2420-2428.	2.5	91
7	Material properties of components in human carotid atherosclerotic plaques: A uniaxial extension study. Acta Biomaterialia, 2014, 10, 5055-5063.	4.1	81
8	Coronary Plaque Structural Stress Is Associated With Plaque Composition and Subtype and Higher in Acute Coronary Syndrome. Circulation: Cardiovascular Imaging, 2014, 7, 461-470.	1.3	78
9	Direct Comparison of Virtual-Histology Intravascular Ultrasound and Optical Coherence Tomography Imaging for Identification of Thin-Cap Fibroatheroma. Circulation: Cardiovascular Imaging, 2015, 8, e003487.	1.3	78
10	Gadolinium Enhancement in Intracranial Atherosclerotic Plaque and Ischemic Stroke: A Systematic Review and Metaâ€Analysis. Journal of the American Heart Association, 2016, 5, .	1.6	78
11	3D MRI-Based Anisotropic FSI Models With Cyclic Bending for Human Coronary Atherosclerotic Plaque Mechanical Analysis. Journal of Biomechanical Engineering, 2009, 131, 061010.	0.6	77
12	3D Critical Plaque Wall Stress Is a Better Predictor of Carotid Plaque Rupture Sites Than Flow Shear Stress: An In Vivo MRI-Based 3D FSI Study. Journal of Biomechanical Engineering, 2010, 132, 031007.	0.6	72
13	Plaque Rupture in Coronary Atherosclerosis Is Associated With Increased Plaque Structural Stress. JACC: Cardiovascular Imaging, 2017, 10, 1472-1483.	2.3	69
14	Impact of combined plaque structural stress and wall shear stress on coronary plaque progression, regression, and changes in composition. European Heart Journal, 2019, 40, 1411-1422.	1.0	68
15	Endovascular repair by customized branched stent-graft: A promising treatment for chronic aortic dissection involving the arch branches. Journal of Thoracic and Cardiovascular Surgery, 2015, 150, 1631-1638.e5.	0.4	63
16	Plaque hemorrhage in carotid artery disease: Pathogenesis, clinical and biomechanical considerations. Journal of Biomechanics, 2014, 47, 847-858.	0.9	61
17	An assessment on the incremental value of high-resolution magnetic resonance imaging to identify culprit plaques in atherosclerotic disease of the middle cerebral artery. European Radiology, 2016, 26, 2206-2214.	2.3	61
18	Critical mechanical conditions around neovessels in carotid atherosclerotic plaque may promote intraplaque hemorrhage. Atherosclerosis, 2012, 223, 321-326.	0.4	60

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19	Local critical stress correlates better than global maximum stress with plaque morphological features linked to atherosclerotic plaque vulnerability: an in vivo multi-patient study. BioMedical Engineering OnLine, 2009, 8, 15.	1.3	57
20	Plaque Structural Stress Estimations Improve Prediction of Future Major Adverse Cardiovascular Events After Intracoronary Imaging. Circulation: Cardiovascular Imaging, 2016, 9, .	1.3	55
21	Ex-vivo imaging and plaque type classification of intracranial atherosclerotic plaque using high resolution MRI. Atherosclerosis, 2016, 249, 10-16.	0.4	54
22	Computer simulation of three-dimensional plaque formation and progression in the carotid artery. Medical and Biological Engineering and Computing, 2013, 51, 607-616.	1.6	47
23	Clinical Significance of Intraplaque Hemorrhage in Low- and High-Grade Basilar Artery Stenosis on High-Resolution MRI. American Journal of Neuroradiology, 2018, 39, 1286-1292.	1.2	47
24	Anisotropic material behaviours of soft tissues in human trachea: An experimental study. Journal of Biomechanics, 2012, 45, 1717-1723.	0.9	41
25	Comparison of high-resolution MRI with CT angiography and digital subtraction angiography for the evaluation of middle cerebral artery atherosclerotic steno-occlusive disease. International Journal of Cardiovascular Imaging, 2013, 29, 1491-1498.	0.7	41
26	Heterogeneity of Plaque Structural Stress Is Increased in Plaques Leading to MACE. JACC: Cardiovascular Imaging, 2020, 13, 1206-1218.	2.3	40
27	Biomechanical structural stresses of atherosclerotic plaques. Expert Review of Cardiovascular Therapy, 2010, 8, 1469-1481.	0.6	39
28	Layer- and Direction-Specific Material Properties, Extreme Extensibility and Ultimate Material Strength of Human Abdominal Aorta and Aneurysm: A Uniaxial Extension Study. Annals of Biomedical Engineering, 2015, 43, 2745-2759.	1.3	38
29	Intraplaque hemorrhage is associated with higher structural stresses in human atherosclerotic plaques: an in vivo MRI-based 3d fluid-structure interaction study. BioMedical Engineering OnLine, 2010, 9, 86.	1.3	37
30	Quantitative Histogram Analysis on Intracranial Atherosclerotic Plaques. Stroke, 2020, 51, 2161-2169.	1.0	36
31	The influence of computational strategy on prediction of mechanical stress in carotid atherosclerotic plaques: Comparison of 2D structure-only, 3D structure-only, one-way and fully coupled fluid-structure interaction analyses. Journal of Biomechanics, 2014, 47, 1465-1471.	0.9	35
32	In vivo MRI-based 3D Mechanical Stressâ€“Strain Profiles of Carotid Plaques with Juxtaluminal Plaque Haemorrhage: An Exploratory Study for the Mechanism of Subsequent Cerebrovascular Events. European Journal of Vascular and Endovascular Surgery, 2011, 42, 427-433.	0.8	33
33	Superficial and multiple calcifications and ulceration associate with intraplaque hemorrhage in the carotid atherosclerotic plaque. European Radiology, 2018, 28, 4968-4977.	2.3	32
34	Advancing COVID-19 diagnosis with privacy-preserving collaboration in artificial intelligence. Nature Machine Intelligence, 2021, 3, 1081-1089.	8.3	30
35	Nonlinear mechanical property of tracheal cartilage: A theoretical and experimental study. Journal of Biomechanics, 2008, 41, 1995-2002.	0.9	29
36	The influence of constitutive law choice used to characterise atherosclerotic tissue material properties on computing stress values in human carotid plaques. Journal of Biomechanics, 2015, 48, 3912-3921.	0.9	29

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37	Arterial Luminal Curvature and Fibrous-Cap Thickness Affect Critical Stress Conditions Within Atherosclerotic Plaque: An In Vivo MRI-Based 2D Finite-Element Study. Annals of Biomedical Engineering, 2010, 38, 3096-3101.	1.3	28
38	Cap inflammation leads to higher plaque cap strain and lower cap stress: An MRI-PET/CT-based FSI modeling approach. Journal of Biomechanics, 2017, 50, 121-129.	0.9	28
39	Normalized Wall Index Specific and MRI-Based Stress Analysis of Atherosclerotic Carotid Plaques - A Study Comparing Acutely Symptomatic and Asymptomatic Patients -. Circulation Journal, 2010, 74, 2360-2364.	0.7	27
40	Impact of plaque haemorrhage and its age on structural stresses in atherosclerotic plaques of patients with carotid artery disease: an MR imaging-based finite element simulation study. International Journal of Cardiovascular Imaging, 2011, 27, 397-402.	0.7	27
41	Using In Vivo Cine and 3D Multi-Contrast MRI to Determine Human Atherosclerotic Carotid Artery Material Properties and Circumferential Shrinkage Rate and Their Impact on Stress/Strain Predictions. Journal of Biomechanical Engineering, 2012, 134, 011008.	0.6	27
42	How Does Juxtaluminal Calcium Affect Critical Mechanical Conditions in Carotid Atherosclerotic Plaque? An Exploratory Study. IEEE Transactions on Biomedical Engineering, 2014, 61, 35-40.	2.5	27
43	Intravascular ultrasound and optical coherence tomography imaging of coronary atherosclerosis. International Journal of Cardiovascular Imaging, 2016, 32, 189-200.	0.7	26
44	Characterization of healing following atherosclerotic carotid plaque rupture in acutely symptomatic patients: an exploratory study using in vivo cardiovascular magnetic resonance. Journal of Cardiovascular Magnetic Resonance, 2011, 13, 64.	1.6	25
45	Scan-Rescan Reproducibility of High Resolution Magnetic Resonance Imaging of Atherosclerotic Plaque in the Middle Cerebral Artery. PLoS ONE, 2015, 10, e0134913.	1.1	23
46	A uni-extension study on the ultimate material strength and extreme extensibility of atherosclerotic tissue in human carotid plaques. Journal of Biomechanics, 2015, 48, 3859-3867.	0.9	22
47	High Structural Stress and Presence of Intraluminal Thrombus Predict Abdominal Aortic Aneurysm ¹⁸ F-FDG Uptake. Circulation: Cardiovascular Imaging, 2016, 9, .	1.3	22
48	Impact of Fiber Structure on the Material Stability and Rupture Mechanisms of Coronary Atherosclerotic Plaques. Annals of Biomedical Engineering, 2017, 45, 1462-1474.	1.3	21
49	Comparison of NASCET and WASID criteria for the measurement of intracranial stenosis using digital subtraction and computed tomography angiography of the middle cerebral artery. Journal of Neuroradiology, 2012, 39, 342-345.	0.6	18
50	Influence of material property variability on the mechanical behaviour of carotid atherosclerotic plaques: A 3D fluidâ€structure interaction analysis. International Journal for Numerical Methods in Biomedical Engineering, 2015, 31, e02722.	1.0	18
51	Study on Tracheal Collapsibility, Compliance, and Stress by Considering Nonlinear Mechanical Property of Cartilage. Annals of Biomedical Engineering, 2009, 37, 2380-2389.	1.3	17
52	Three-dimensional volumetric analysis of atherosclerotic plaques: a magnetic resonance imaging-based study of patients with moderate stenosis carotid artery disease. International Journal of Cardiovascular Imaging, 2010, 26, 897-904.	0.7	17
53	Lumen Irregularity Dominates the Relationship Between Mechanical Stress Condition, Fibrous-Cap Thickness, and Lumen Curvature in Carotid Atherosclerotic Plaque. Journal of Biomechanical Engineering, 2011, 133, 034501.	0.6	17
54	In vivo MRI-based simulation of fatigue process: a possible trigger for human carotid atherosclerotic plaque rupture. BioMedical Engineering OnLine, 2013, 12, 36.	1.3	17

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55	Protective or destructive: High wall shear stress and atherosclerosis. Atherosclerosis, 2016, 251, 501-503.	0.4	17
56	Stiffness Properties of Adventitia, Media, and Full Thickness Human Atherosclerotic Carotid Arteries in the Axial and Circumferential Directions. Journal of Biomechanical Engineering, 2017, 139, .	0.6	17
57	MARK4 (Microtubule Affinity-Regulating Kinase 4)-Dependent Inflammasome Activation Promotes Atherosclerosisâ€"Brief Report. Arteriosclerosis, Thrombosis, and Vascular Biology, 2019, 39, 1645-1651.	1.1	17
58	Early Diastolic Longitudinal Strain Rate at MRI and Outcomes in Heart Failure with Preserved Ejection Fraction. Radiology, 2021, 301, 582-592.	3.6	17
59	Non-uniform shrinkage for obtaining computational start shape for in-vivo MRI-based plaque vulnerability assessment. Journal of Biomechanics, 2011, 44, 2316-2319.	0.9	15
60	Utility of Magnetic Resonance Imaging-Based Finite Element Analysis for the Biomechanical Stress Analysis of Hemorrhagic and Non-Hemorrhagic Carotid Plaques. Circulation Journal, 2011, 75, 884-889.	0.7	15
61	Management of Complicated Aortic Aneurysms Using Multiple Overlapping Uncovered Stents. Medicine (United States), 2014, 93, e209.	0.4	15
62	3D high-resolution contrast enhanced MRI of carotid atheroma â€" a technical update. Magnetic Resonance Imaging, 2014, 32, 594-597.	1.0	15
63	Relationship between carotid plaque surface morphology and perfusion: a 3D DCE-MRI study. Magnetic Resonance Materials in Physics, Biology, and Medicine, 2018, 31, 191-199.	1.1	14
64	Multiparametric Cardiovascular Magnetic Resonance in Acute Myocarditis: Comparison of 2009 and 2018 Lake Louise Criteria With Endomyocardial Biopsy Confirmation. Frontiers in Cardiovascular Medicine, 2021, 8, 739892.	1.1	13
65	The MRI enhancement ratio and plaque steepness may be more accurate for predicting recurrent ischemic cerebrovascular events in patients with intracranial atherosclerosis. European Radiology, 2022, 32, 7004-7013.	2.3	13
66	Error propagation in the characterization of atheromatic plaque types based on imaging. Computer Methods and Programs in Biomedicine, 2015, 121, 161-174.	2.6	12
67	Neural network fusion: a novel CT-MR aortic aneurysm image segmentation method. , 2018, 10574, .		11
68	Association of Hypertension With Both Occurrence and Outcome of Symptomatic Patients With Mild Intracranial Atherosclerotic Stenosis: A Prospective Higher Resolution <scp>Magnetic Resonance Imaging</scp> Study. Journal of Magnetic Resonance Imaging, 2021, 54, 76-88.	1.9	11
69	Cyclic Bending Contributes to High Stress in a Human Coronary Atherosclerotic Plaque and Rupture Risk: In Vitro Experimental Modeling and Ex Vivo MRI-Based Computational Modeling Approach. MCB Molecular and Cellular Biomechanics, 2008, 5, 259-274.	0.3	11
70	MRI-based biomechanical parameters for carotid artery plaque vulnerability assessment. Thrombosis and Haemostasis, 2016, 115, 493-500.	1.8	10
71	Bayes Clustering and Structural Support Vector Machines for Segmentation of Carotid Artery Plaques in Multicontrast MRI. Computational and Mathematical Methods in Medicine, 2012, 2012, 1-6.	0.7	9
72	Intraplaque Stretch in Carotid Atherosclerotic Plaque â€" an Effective Biomechanical Predictor for Subsequent Cerebrovascular Ischemic Events. PLoS ONE, 2013, 8, e61522.	1.1	9

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73	Influence of overlapping pattern of multiple overlapping uncovered stents on the local mechanical environment: A patient-specific parameter study. Journal of Biomechanics, 2017, 60, 188-196.	0.9	9
74	Greater aortic inflammation and calcification in abdominal aortic aneurysmal disease than atherosclerosis: a prospective matched cohort study. Open Heart, 2020, 7, e001141.	0.9	9
75	Study of tracheal collapsibility, compliance and stress by considering its asymmetric geometry. Medical Engineering and Physics, 2009, 31, 328-336.	0.8	8
76	Bayesian Inference-Based Estimation of Normal Aortic, Aneurysmal and Atherosclerotic Tissue Mechanical Properties: From Material Testing, Modeling and Histology. IEEE Transactions on Biomedical Engineering, 2019, 66, 2269-2278.	2.5	8
77	Cascaded residual U-net for fully automatic segmentation of 3D carotid artery in high-resolution multi-contrast MR images. Physics in Medicine and Biology, 2021, 66, 045033.	1.6	7
78	Tracheal compliance and limit flow rate changes in a murine model of asthma. Science in China Series C: Life Sciences, 2008, 51, 922-931.	1.3	5
79	Compounding Local Invariant Features and Global Deformable Geometry for Medical Image Registration. PLoS ONE, 2014, 9, e105815.	1.1	5
80	Identification and Quantitative Assessment of Different Components of Intracranial Atherosclerotic Plaque by Ex Vivo 3T High-Resolution Multicontrast MRI. American Journal of Neuroradiology, 2017, 38, 1716-1722.	1.2	5
81	Automatic segmentation of MR depicted carotid arterial boundary based on local priors and constrained global optimisation. IET Image Processing, 2019, 13, 506-514.	1.4	5
82	Study on the association of wall shear stress and vessel structural stress with atherosclerosis: An experimental animal study. Atherosclerosis, 2021, 320, 38-46.	0.4	5
83	Opening angles and residual strains in normal rat trachea. Science in China Series C: Life Sciences, 2002, 45, 138.	1.3	4
84	Carotid Intraplaque Hemorrhage: A Biomarker for Subsequent Ischemic Cerebrovascular Event?. Cerebrovascular Diseases, 2017, 43, 257-258.	0.8	4
85	Identification of high risk clinical and imaging features for intracranial artery dissection using high-resolution cardiovascular magnetic resonance. Journal of Cardiovascular Magnetic Resonance, 2021, 23, 74.	1.6	4
86	Mechanical and histological characteristics of aortic dissection tissues. Acta Biomaterialia, 2022, 146, 284-294.	4.1	4
87	Study on cartilaginous and muscular strains of rat trachea. Science in China Series C: Life Sciences, 2004, 47, 485.	1.3	3
88	From Ultrasonography to High Resolution Magnetic Resonance Imaging: Towards an Optimal Management Strategy for Vulnerable Carotid Atherosclerotic Plaques. EBioMedicine, 2016, 3, 2-3.	2.7	3
89	Noninvasive imaging assessment of portal hypertension: where are we now and where does the future lie?. Expert Review of Molecular Diagnostics, 2021, 21, 343-345.	1.5	3
90	Vessel structural stress mediates aortic media degeneration in bicuspid aortopathy: New insights based on patient-specific fluid-structure interaction analysis. Journal of Biomechanics, 2021, 129, 110805.	0.9	3

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91	High-intensity statin treatment is associated with reduced plaque structural stress and remodelling of artery geometry and plaque architecture. European Heart Journal Open, 2021, 1, .	0.9	3
92	Association of Collagen, Elastin, Glycosaminoglycans, and Macrophages With Tissue Ultimate Material Strength and Stretch in Human Thoracic Aortic Aneurysms: A Uniaxial Tension Study. Journal of Biomechanical Engineering, 2022, 144, .	0.6	3
93	Theoretical and experimental studies on the nonlinear mechanical property of tracheal cartilage. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 1058-61.	0.5	2
94	Multi-scale segmentation of carotid artery wall in MRI images. , 2010, , .		2
95	Local blood pressure associates with the degree of luminal stenosis in patients with atherosclerotic disease in the middle cerebral artery. BioMedical Engineering OnLine, 2016, 15, 67.	1.3	2
96	Complex carotid artery segmentation in multi-contrast MR sequences by improved optimal surface graph cuts based on flow line learning. Medical and Biological Engineering and Computing, 2022, 60, 2693-2706.	1.6	2
97	Magnetic Resonance Imaging-Based Assessment of Carotid Atheroma: a Comparative Study of Patients with and without Coronary Artery Disease. Journal of Stroke and Cerebrovascular Diseases, 2017, 26, 347-351.	0.7	1
98	The role of porosity and 3D cross-stent configuration of multiple overlapping uncovered stents in the management of complex aortic aneurysms â€" Insights from haemodynamics. Medicine in Novel Technology and Devices, 2019, 3, 100020.	0.9	1
99	Biomechanical insight of the stent-induced thrombosis following flow-diverting strategy in the management of complicated aortic aneurysms. International Angiology, 2021, 40, 52-59.	0.4	1
100	Predicting Human Carotid Plaque Site of Rupture Using 3D Critical Plaque Wall Stress and Flow Shear Stress: A 3D Multi-Patient FSI Study Based on In Vivo MRI of Plaques With and Without Prior Rupture. , 2010, , .		0
101	Estimation of the zero-pressure computational start shape of atherosclerotic plaques: Improving the backward displacement method with deformation gradient tensor. Journal of Biomechanics, 2022, 131, 110910.	0.9	0
102	Multi-Sequence MRI Registration of Atherosclerotic Carotid Arteries Based on Cross-Scale Siamese Network. Frontiers in Cardiovascular Medicine, 2021, 8, 785523.	1.1	0