Minliang Liu

List of Publications by Year
in descending order

26 papers	855 citations	623188 14 h-index	642321 23 g-index
32 all docs	32 docs citations	32 times ranked	795 citing authors

#	Article	IF	Citations
1	A deep learning approach to estimate stress distribution: a fast and accurate surrogate of finite-element analysis. Journal of the Royal Society Interface, 2018, 15, 20170844.	1.5	265
2	A machine learning approach to investigate the relationship between shape features and numerically predicted risk of ascending aortic aneurysm. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1519-1533.	1.4	111
3	Estimation of in vivo constitutive parameters of the aortic wall using a machine learning approach. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 201-217.	3.4	57
4	A generic physics-informed neural network-based constitutive model for soft biological tissues. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113402.	3.4	54
5	A new inverse method for estimation of in vivo mechanical properties of the aortic wall. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 72, 148-158.	1.5	52
6	Airborne particulate matter classification and concentration detection based on 3D printed virtual impactor and quartz crystal microbalance sensor. Sensors and Actuators A: Physical, 2016, 238, 379-388.	2.0	44
7	A deep learning approach to estimate chemically-treated collagenous tissue nonlinear anisotropic stress-strain responses from microscopy images. Acta Biomaterialia, 2017, 63, 227-235.	4.1	40
8	Estimation of in vivo mechanical properties of the aortic wall: A multi-resolution direct search approach. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 77, 649-659.	1.5	29
9	A machine learning approach as a surrogate of finite element analysisâ€“based inverse method to estimate the zeroâ€pressure geometry of human thoracic aorta. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e3103.	1.0	29
10	Computation of a probabilistic and anisotropic failure metric on the aortic wall using a machine learning-based surrogate model. Computers in Biology and Medicine, 2021, 137, 104794.	3.9	22
11	Identification of in vivo nonlinear anisotropic mechanical properties of ascending thoracic aortic aneurysm from patient-specific CT scans. Scientific Reports, 2019, 9, 12983.	1.6	20
12	On the computation of in vivo transmural mean stress of patient-specific aortic wall. Biomechanics and Modeling in Mechanobiology, 2019, 18, 387-398.	1.4	20
13	A Novel Anisotropic Failure Criterion With Dispersed Fiber Orientations for Aortic Tissues. Journal of Biomechanical Engineering, 2020, 142, .	0.6	19
14	A residual stiffness-based model for the fatigue damage of biological soft tissues. Journal of the Mechanics and Physics of Solids, 2020, 143, 104074.	2.3	18
15	Finite element simulation of three dimensional residual stress in the aortic wall using an anisotropic tissue growth model. Journal of the Mechanical Behavior of Biomedical Materials, 2019, 92, 188-196.	1.5	17
16	Biobased High-Performance Rotary Micromotors for Individually Reconfigurable Micromachine Arrays and Microfluidic Applications. ACS Applied Materials & Interfaces, 2017, 9, 6144-6152.	4.0	16
17	A novel computational growth framework for biological tissues: Application to growth of aortic root aneurysm repaired by the V-shape surgery. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 127, 105081.	1.5	9
18	A probabilistic and anisotropic failure metric for ascending thoracic aortic aneurysm risk assessment. Journal of the Mechanics and Physics of Solids, 2021, 155, 104539.	2.3	8

#	Article	IF	Citations
19	Distortion Energy for Deep Learning-Based Volumetric Finite Element Mesh Generation for Aortic Valves. Lecture Notes in Computer Science, 2021, , 485-494.	1.0	5
20	Airborne particulate matter classification and concentration detection based on 3D printed virtual impactor and quartz crystal microbalance sensor. , 2016, , .		3
21	Weakly Supervised Deep Learning for Aortic Valve Finite Element Mesh Generation from 3D CT Images. Lecture Notes in Computer Science, 2021, , 637-648.	1.0	3
22	Engineering analysis of aortic wall stress and root dilatation in the V-shape surgery for treatment of ascending aortic aneurysms. Interactive Cardiovascular and Thoracic Surgery, 2022, , .	0.5	3
23	Ultimate tensile strength and biaxial stressâ€“strain responses of aortic tissuesâ€”A clinical-engineering correlation. Applications in Engineering Science, 2022, 10, 100101.	0.5	3
24	3067 Biomechanical analysis of acute versus chronic aortic dissection flaps. Journal of Clinical and Translational Science, 2019, 3, 102-102.	0.3	2
25	On the Identification of Heterogeneous Nonlinear Material Properties of the Aortic Wall from Clinical Gated CT Scans. MCB Molecular and Cellular Biomechanics, 2019, 16, 53-53.	0.3	1
26	Letter to the editor regarding the paper titled "on the role of material properties in ascending thoracic aortic aneurysms". Computers in Biology and Medicine, 2019, 112, 103373.	3.9	0