Arash Kheradvar,, Faha

List of Publications by Year
in descending order

70 papers	3,184 citations	218592 26 h-index	155592 55 g-index
72 all docs	72 docs citations	72 times ranked	3880 citing authors

#	Article	IF	Citations
1	A combined deep-learning and deformable-model approach to fully automatic segmentation of the left ventricle in cardiac MRI. Medical Image Analysis, 2016, 30, 108-119.	7.0	471
2	Echocardiographic Particle Image Velocimetry: A Novel Technique for Quantification of Left Ventricular Blood Vorticity Pattern. Journal of the American Society of Echocardiography, 2010, 23, 86-94.	1.2	400
3	Optimal vortex formation as an index of cardiac health. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 6305-6308.	3.3	289
4	Emerging Trends in CV Flow Visualization. JACC: Cardiovascular Imaging, 2012, 5, 305-316.	2.3	211
5	The Effects of Transcatheter Valve Crimping on Pericardial Leaflets. Annals of Thoracic Surgery, 2014, 97, 1260-1266.	0.7	117
6	Automatic segmentation of the right ventricle from cardiac MRI using a learningâ€based approach. Magnetic Resonance in Medicine, 2017, 78, 2439-2448.	1.9	115
7	An anatomic study of the lingual nerve in the third molar region. Journal of Oral and Maxillofacial Surgery, 2000, 58, 649-651.	0.5	106
8	Contrast echocardiography for assessing left ventricular vortex strength in heart failure: a prospective cohort study. European Heart Journal Cardiovascular Imaging, 2013, 14, 1049-1060.	0.5	97
9	Emerging Trends in Heart Valve Engineering: Part I. Solutions for Future. Annals of Biomedical Engineering, 2015, 43, 833-843.	1.3	80
10	Assessment of Transmitral Vortex Formation in Patients with Diastolic Dysfunction. Journal of the American Society of Echocardiography, 2012, 25, 220-227.	1.2	79
11	On Mitral Valve Dynamics and its Connection to Early Diastolic Flow. Annals of Biomedical Engineering, 2009, 37, 1-13.	1.3	76
12	Correlation Between Vortex Ring Formation and Mitral Annulus Dynamics During Ventricular Rapid Filling. ASAIO Journal, 2007, 53, 8-16.	0.9	71
13	On the Mechanics of Transcatheter Aortic Valve Replacement. Annals of Biomedical Engineering, 2017, 45, 310-331.	1.3	69
14	Bioenergetics Consequences of Mitochondrial Transplantation in Cardiomyocytes. Journal of the American Heart Association, 2020, 9, e014501.	1.6	64
15	3D Printing, Computational Modeling, and Artificial Intelligence for Structural Heart Disease. JACC: Cardiovascular Imaging, 2021, 14, 41-60.	2.3	63
16	Emerging Trends in Heart Valve Engineering: Part II. Novel and Standard Technologies for Aortic Valve Replacement. Annals of Biomedical Engineering, 2015, 43, 844-857.	1.3	52
17	High-speed particle image velocimetry to assess cardiac fluid dynamics in vitro: From performance to validation. European Journal of Mechanics, B/Fluids, 2012, 35, 2-8.	1.2	50
18	Influence of Ventricular Pressure Drop on Mitral Annulus Dynamics Through the Process of Vortex Ring Formation. Annals of Biomedical Engineering, 2007, 35, 2050-2064.	1.3	44

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19	A 3-D Active Contour Method for Automated Segmentation of the Left Ventricle From Magnetic Resonance Images. IEEE Transactions on Biomedical Engineering, 2017, 64, 134-144.	2.5	44
20	The Effects of Positioning of Transcatheter Aortic Valves on Fluid Dynamics of the Aortic Root. ASAIO Journal, 2014, 60, 545-552.	0.9	40
21	Characterizing the Collagen Fiber Orientation in Pericardial Leaflets Under Mechanical Loading Conditions. Annals of Biomedical Engineering, 2013, 41, 547-561.	1.3	38
22	Emerging Trends in Heart Valve Engineering: Part III. Novel Technologies for Mitral Valve Repair and Replacement. Annals of Biomedical Engineering, 2015, 43, 858-870.	1.3	35
23	Emerging Trends in Heart Valve Engineering: Part IV. Computational Modeling and Experimental Studies. Annals of Biomedical Engineering, 2015, 43, 2314-2333.	1.3	34
24	Diagnostic and prognostic significance of cardiovascular vortex formation. Journal of Cardiology, 2019, 74, 403-411.	0.8	32
25	Artificial intelligence in pediatric and adult congenital cardiac MRI: an unmet clinical need. Cardiovascular Diagnosis and Therapy, 2019, 9, S310-S325.	0.7	31
26	Fullyâ€‘automated deepâ€‘learning segmentation of pediatric cardiovascular magnetic resonance of patients with complex congenital heart diseases. Journal of Cardiovascular Magnetic Resonance, 2020, 22, 80.	1.6	31
27	Vortex Formation in the Cardiovascular System. , 2012, , .		30
28	An In Vitro Study of Changing Profile Heights in Mitral Bioprostheses and Their Influence on Flow. ASAIO Journal, 2006, 52, 34-38.	0.9	26
29	A Hybrid Tissue-Engineered Heart Valve. Annals of Thoracic Surgery, 2015, 99, 2183-2187.	0.7	25
30	Inflammatory Response Assessment of a Hybrid Tissue-Engineered Heart Valve Leaflet. Annals of Biomedical Engineering, 2013, 41, 316-326.	1.3	24
31	Simplified Bernoulli's method significantly underestimates pulmonary transvalvular pressure drop. Journal of Magnetic Resonance Imaging, 2016, 43, 1313-1319.	1.9	23
32	Animal models for heart valve research and development. Drug Discovery Today: Disease Models, 2017, 24, 55-62.	1.2	23
33	Mitochondrial transplantation in cardiomyocytes: foundation, methods, and outcomes. American Journal of Physiology - Cell Physiology, 2021, 321, C489-C503.	2.1	21
34	The effects of dynamic saddle annulus and leaflet length on transmitral flow pattern and leaflet stress of a bileaflet bioprosthetic mitral valve. Journal of Heart Valve Disease, 2012, 21, 225-33.	0.5	18
35	Metal Mesh Scaffold for Tissue Engineering of Membranes. Tissue Engineering - Part C: Methods, 2012, 18, 293-301.	1.1	17
36	Three-dimensional reconstruction of cardiac flows based on multi-planar velocity fields. Experiments in Fluids, 2014, 55, 1.	1.1	16

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37	Effect of Fiber Geometry on Pulsatile Pumping and Energy Expenditure. Bulletin of Mathematical Biology, 2009, 71, 1580-1598.	0.9	15
38	Load-dependent extracellular matrix organization in atrioventricular heart valves: differences and similarities. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 309, H276-H284.	1.5	14
39	Prospects of mitochondrial transplantation in clinical medicine: Aspirations and challenges. Mitochondrion, 2022, 65, 33-44.	1.6	14
40	Vortex Formation in the Heart. , 2012, , 45-79.		13
41	Effect of the Mitral Valveâ€™s Anterior Leaflet on Axisymmetry of Transmitral Vortex Ring. Annals of Biomedical Engineering, 2015, 43, 2349-2360.	1.3	13
42	Effect of stent crimping on calcification of transcatheter aortic valves. Interactive Cardiovascular and Thoracic Surgery, 2019, 29, 64-73.	0.5	13
43	Generalizable fully automated multi-label segmentation of four-chamber view echocardiograms based on deep convolutional adversarial networks. Journal of the Royal Society Interface, 2020, 17, 20200267.	1.5	13
44	Juvenile Xanthogranuloma. Cornea, 2001, 20, 760-762.	0.9	12
45	Assessment of Left Ventricular Viscoelastic Components Based on Ventricular Harmonic Behavior. Cardiovascular Engineering (Dordrecht, Netherlands), 2006, 6, 30-39.	1.0	10
46	A calcified polymeric valve for valve-in-valve applications. Journal of Biomechanics, 2017, 50, 77-82.	0.9	10
47	Intraventricular Vortex Interaction between Transmitral Flow and Paravalvular Leak. Scientific Reports, 2018, 8, 15657.	1.6	10
48	Heart beat but not respiration is the main driving force of the systemic venous return in the Fontan circulation. Scientific Reports, 2019, 9, 2034.	1.6	10
49	Proof of concept of FOLDAVALVE, a novel 14 Fr totally repositionable and retrievable transcatheter aortic valve. EuroIntervention, 2015, 11, 591-596.	1.4	10
50	A Tri-Leaflet Nitinol Mesh Scaffold for Engineering Heart Valves. Annals of Biomedical Engineering, 2017, 45, 413-426.	1.3	8
51	Influence of HLA on progression of optic neuritis to multiple sclerosis: results of a four-year follow-up study. Multiple Sclerosis Journal, 2004, 10, 526-531.	1.4	7
52	A measure of axisymmetry for vortex rings. European Journal of Mechanics, B/Fluids, 2015, 49, 264-271.	1.2	7
53	Myocardial Perfusion in Hypoplastic Left Heart Syndrome. Circulation: Cardiovascular Imaging, 2021, 14, e012468.	1.3	7
54	Ageâ€related changes in diastolic function in children: Echocardiographic association with vortex formation time. Echocardiography, 2019, 36, 1869-1875.	0.3	6

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55	4D flow streamline characteristics of the great arteries twenty years after Lecompte and direct spiral arterial switch operation (DSASO) in simple TGA. Global Cardiology Science & Practice, 2016, 2016, e201629.	0.3	5
56	A framework for synthetic validation of 3D echocardiographic particle image velocimetry. Meccanica, 2017, 52, 555-561.	1.2	4
57	On the accuracy of intracardiac flow velocimetry methods. Journal of Echocardiography, 2017, 15, 67-69.	0.4	4
58	MRI-based comprehensive analysis of vascular anatomy and hemodynamics. Cardiovascular Diagnosis and Therapy, 2021, 11, 0-0.	0.7	3
59	Vortex Dynamics. , 2012, , 17-44.		2
60	Prospect of artificial intelligence for the assessment of cardiac function and treatment of cardiovascular disease. Future Cardiology, 2021, 17, 183-187.	0.5	2
61	Immunological and Phenotypic Considerations in Supplementing Cardiac Biomaterials with Cells. , 2015, , 239-273.		2
62	Estimation of elastic and viscous properties of the left ventricle based on annulus plane harmonic behavior. , 2006, 2006, 616-9.		1
63	Effect of Cardiac Devices and Surgery on Vortex Formation. , 2012, , 81-124.		1
64	Comments on Defining the Contribution of DiastolicÂVortex Ring to Left Ventricular Filling. Journal of the American College of Cardiology, 2015, 65, 2573-2574.	1.2	1
65	Transcatheter heart valves. , 2019, , 85-122.		1
66	Collagen Fibrillogenesis in the Mitral Valve: Itâ€™s a Matter of Compliance. Journal of Cardiovascular Development and Disease, 2021, 8, 98.	0.8	1
67	CHANGING PROFILE HEIGHTS IN PERIMOUNT??? MITRAL VALVE: AN IN-VITRO QUANTITATIVE FLOW VISUALIZATION STUDY. ASAIO Journal, 2005, 51, 32A.	0.9	0
68	Diagnostic Vortex Imaging. , 2012, , 125-157.		0
69	Simplified Bernoulli's method significantly underestimates pulmonary transvalvular pressure drop. Journal of Magnetic Resonance Imaging, 2016, 43, spcone-spcone.	1.9	0
70	Transvalvular flow. , 2019, , 239-279.		0