

# Javad Dargahi

## List of Publications by Year in descending order

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Version: 2024-02-01

85  
papers

1,363  
citations

361413

20  
h-index

377865

34  
g-index

86  
all docs

86  
docs citations

86  
times ranked

1076  
citing authors

#	ARTICLE	IF	CITATIONS
1	Design and development of a new piezoelectric linear Inchworm actuator. <i>Mechatronics</i> , 2005, 15, 651-681.	3.3	110
2	Discretely Loaded Beam-Type Optical Fiber Tactile Sensor for Tissue Manipulation and Palpation in Minimally Invasive Robotic Surgery. <i>IEEE Sensors Journal</i> , 2012, 12, 22-32.	4.7	86
3	A New Approach for Modeling Piezoresistive Force Sensors Based on Semiconductive Polymer Composites. <i>IEEE/ASME Transactions on Mechatronics</i> , 2012, 17, 572-581.	5.8	86
4	A new 9-point sixth-order accurate compact finite-difference method for the Helmholtz equation. <i>Journal of Sound and Vibration</i> , 2007, 307, 972-982.	3.9	78
5	Tactile Sensors for Minimally Invasive Surgery: A Review of the State-of-the-Art, Applications, and Perspectives. <i>IEEE Access</i> , 2020, 8, 7682-7708.	4.2	72
6	MEMS Endoscopic Tactile Sensor: Toward <i>In-Situ</i> and <i>In-Vivo</i> Tissue Softness Characterization. <i>IEEE Sensors Journal</i> , 2009, 9, 1679-1687.	4.7	59
7	Haptic Telerobotic Cardiovascular Intervention: A Review of Approaches, Methods, and Future Perspectives. <i>IEEE Reviews in Biomedical Engineering</i> , 2020, 13, 32-50.	18.0	54
8	Theoretical and experimental analysis of a piezoelectric tactile sensor for use in endoscopic surgery. <i>Sensor Review</i> , 2004, 24, 74-83.	1.8	44
9	Hybrid piezoresistive-optical tactile sensor for simultaneous measurement of tissue stiffness and detection of tissue discontinuity in robot-assisted minimally invasive surgery. <i>Journal of Biomedical Optics</i> , 2017, 22, 077002.	2.6	39
10	Composite magnetorheological elastomers for tactile displays: Enhanced MR-effect through bi-layer composition. <i>Composites Part B: Engineering</i> , 2020, 190, 107888.	12.0	36
11	Toward Task Autonomy in Robotic Cardiac Ablation: Learning-Based Kinematic Control of Soft Tendon-Driven Catheters. <i>Soft Robotics</i> , 2021, 8, 340-351.	8.0	35
12	Modeling and testing of an endoscopic piezoelectric-based tactile sensor. <i>Mechatronics</i> , 2007, 17, 462-467.	3.3	33
13	Miniaturized Optical Force Sensor for Minimally Invasive Surgery With Learning-Based Nonlinear Calibration. <i>IEEE Sensors Journal</i> , 2020, 20, 3579-3592.	4.7	33
14	Magnetostriction-based force feedback for robot-assisted cardiovascular surgery using smart magnetorheological elastomers. <i>Mechanical Systems and Signal Processing</i> , 2021, 161, 107918.	8.0	33
15	Simultaneous measurement of acoustic and streaming velocities using synchronized PIV technique. <i>Measurement Science and Technology</i> , 2007, 18, 1811-1817.	2.6	32
16	Modelling and testing of a sensor capable of determining the stiffness of biological tissues. <i>Canadian Journal of Electrical and Computer Engineering</i> , 2007, 32, 45-51.	2.0	28
17	Analysis of regular and irregular acoustic streaming patterns in a rectangular enclosure. <i>Wave Motion</i> , 2009, 46, 312-322.	2.0	24
18	Sensitivity analysis of a novel tactile probe for measurement of tissue softness with applications in biomedical robotics. <i>Journal of Materials Processing Technology</i> , 2007, 183, 176-182.	6.3	23

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19	Measurement of the acoustic velocity field of nonlinear standing waves using the synchronized PIV technique. <i>Experimental Thermal and Fluid Science</i> , 2008, 33, 123-131.	2.7	21
20	Development and assessment of a stiffness display system for minimally invasive surgery based on smart magneto-rheological elastomers. <i>Materials Science and Engineering C</i> , 2020, 108, 110409.	7.3	21
21	Graphical display of tactile sensing data with application in minimally invasive surgery. <i>Canadian Journal of Electrical and Computer Engineering</i> , 2007, 32, 151-155.	2.0	18
22	Sensor-free Force Control of Tendon-driven Ablation Catheters through Position Control and Contact Modeling. , 2020, 2020, 5248-5251.		18
23	Influence of differentially heated horizontal walls on the streaming shape and velocity in a standing wave resonator. <i>International Communications in Heat and Mass Transfer</i> , 2008, 35, 1061-1064.	5.6	17
24	A Sensor-less Catheter Contact Force Estimation Approach in Endovascular Intervention Procedures. , 2018, , .		17
25	Effects of transverse temperature gradient on acoustic and streaming velocity fields in a resonant cavity. <i>Applied Physics Letters</i> , 2008, 93, 051902.	3.3	16
26	Upcoming methods and specifications of continuous intraocular pressure monitoring systems for glaucoma. <i>Journal of Ophthalmic and Vision Research</i> , 2018, 13, 66.	1.0	16
27	Sensing principle for real-time characterization of viscoelasticity in the beating myocardial tissue. , 2017, , .		15
28	Displacement-based Model for Estimation of Contact Force Between RFA Catheter and Atrial Tissue with ex-vivo Validation. , 2019, , .		15
29	Viscoelastic Modeling of the Contact Interaction Between a Tactile Sensor and an Atrial Tissue. <i>IEEE Transactions on Biomedical Engineering</i> , 2012, 59, 1727-1738.	4.2	14
30	Image-based Estimation of Contact Forces on Catheters for Robot-assisted Cardiovascular Intervention. , 0, , .		14
31	Towards Skill Transfer via Learning-Based Guidance in Human-Robot Interaction: An Application to Orthopaedic Surgical Drilling Skill. <i>Journal of Intelligent and Robotic Systems: Theory and Applications</i> , 2020, 98, 667-678.	3.4	12
32	Integral-Free Spatial Orientation Estimation Method and Wearable Rotation Measurement Device for Robot-Assisted Catheter Intervention. <i>IEEE/ASME Transactions on Mechatronics</i> , 2022, 27, 766-776.	5.8	12
33	An approach to directional drilling simulation: finite element and finite segment methods with contact. <i>Computational Mechanics</i> , 2016, 57, 1001-1015.	4.0	11
34	Deep Learning-Based Haptic Guidance for Surgical Skills Transfer. <i>Frontiers in Robotics and AI</i> , 2020, 7, 586707.	3.2	11
35	Optical Fiber Array Sensor for Lateral and Circumferential Force Measurement Suitable for Minimally Invasive Surgery: Design, Modeling and Analysis. , 2016, , .		11
36	Analysis of the flow structure inside the valveless standing wave pump. <i>Physics of Fluids</i> , 2008, 20, .	4.0	10

#	ARTICLE	IF	CITATIONS
37	A portable low-cost 3D-printed wrist rehabilitation robot: Design and development. Mechanism and Machine Theory, 2022, 171, 104719.	4.5	10
38	Micro-optical force distribution sensing suitable for lump/artery detection. Biomedical Microdevices, 2015, 17, 10.	2.8	9
39	A multi-purpose optical microsystem for static and dynamic tactile sensing. Sensors and Actuators A: Physical, 2015, 235, 37-47.	4.1	9
40	An integrated force-position tactile sensor for improving diagnostic and therapeutic endoscopic surgery. Bio-Medical Materials and Engineering, 2004, 14, 151-66.	0.6	9
41	3D Suspended Polymeric Microfluidics (SPMF3) with Flow Orthogonal to Bending (FOB) for Fluid Analysis through Kinematic Viscosity. Applied Sciences (Switzerland), 2017, 7, 1048.	2.5	8
42	Optomechanical Modeling and Validation of a Distributed Bragg Reflector Force Sensor With Drift and Temperature Compensation. IEEE Sensors Journal, 2021, 21, 2929-2941.	4.7	8
43	Image-Based Optical-Fiber Force Sensor for Minimally Invasive Surgery with ex-vivo Validation. Journal of the Electrochemical Society, 2020, 167, 127504.	2.9	8
44	Analytical Tip Force Estimation on Tendon-driven Catheters Through Inverse Solution of Cosserat Rod Model. , 2021, , .		8
45	A FOURTH-ORDER ACCURATE SCHEME FOR SOLVING ONE-DIMENSIONAL HIGHLY NONLINEAR STANDING WAVE EQUATION IN DIFFERENT THERMOVISCOUS FLUIDS. Journal of Computational Acoustics, 2008, 16, 563-576.	1.0	7
46	Extracting of Sagging Profile of Overhead Power Transmission Line Via Image Processing. , 2018, , .		7
47	Dynamics and stability of imperfect flexible cylinders in axial flow. Journal of Fluids and Structures, 2021, 105, 103321.	3.4	7
48	Optimization of the geometry of total knee implant in the sagittal plane using FEA. Bio-Medical Materials and Engineering, 2003, 13, 439-49.	0.6	7
49	Innovative optical microsystem for static and dynamic tissue diagnosis in minimally invasive surgical operations. Journal of Biomedical Optics, 2012, 17, 081416.	2.6	6
50	Parametric study on fluid structure interaction of a 3D suspended polymeric microfluidics (SPMF3). Microsystem Technologies, 2018, 24, 2549-2559.	2.0	6
51	Investigations on the Grasping Contact Analysis of Biological Tissues With Applications in Minimally Invasive Surgery. American Journal of Applied Sciences, 2007, 4, 1016-1023.	0.2	6
52	Bending-based formulation of light intensity modulation for miniaturization of optical tactile sensors. , 2018, , .		6
53	Biomechanical effect of posterior elements and ligamentous tissues of lumbar spine on load sharing. Bio-Medical Materials and Engineering, 2005, 15, 145-58.	0.6	6
54	Gesture-Based Adaptive Haptic Guidance: A Comparison of Discriminative and Generative Modeling Approaches. IEEE Robotics and Automation Letters, 2017, 2, 1015-1022.	5.1	5

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55	Rigid and Elastic Microparticles Detection Using 3-D Suspended Polymeric Microfluidics (SPMF <sup>3</sup> ) Sensor. IEEE Sensors Journal, 2018, 18, 5674-5684.	4.7	5
56	Force Estimation on Steerable Catheters through Learning-from-Simulation with ex-vivo Validation. , 2021, , .		5
57	Analytical Modeling and Experimental Validation of a Gelatin-based Shape Sensor for Soft Robots. , 2022, , .		5
58	An endoscopic grasper with corrugated plate-shaped tactile sensors. Journal of Mechanics of Materials and Structures, 2009, 4, 913-926.	0.6	4
59	Validation of a Variable Bending Radius Sensing Principle for Optical-fiber Tactile Sensors. , 2019, , .		4
60	Y-Net: A Deep Convolutional Architecture for 3D Estimation of Contact Forces in Intracardiac Catheters. IEEE Robotics and Automation Letters, 2022, 7, 3592-3599.	5.1	4
61	Design and Fabrication of Piezoelectric-based Tactile Sensor for Detecting Compliance. , 2006, , .		3
62	Optical Fiber Array Sensor for Force Estimation and Localization in TAVI Procedure: Design, Modeling, Analysis and Validation. Sensors, 2021, 21, 5377.	3.8	3
63	Design and Optimization of a Linear Wavenumber Spectrometer with Cylindrical Optics for Line Scanning Optical Coherence Tomography. Sensors, 2021, 21, 6463.	3.8	3
64	A Vision-Based Method For Estimating Contact Forces In Intracardiac Catheters. , 2021, , .		3
65	Camera-Based Optical-Fiber Tactile Sensor for Intraoperative Grasping Force Measurement. ECS Meeting Abstracts, 2020, MA2020-01, 2382-2382.	0.0	3
66	A novel tactile softness display for minimally invasive surgery. Mechatronics, 2014, 24, 1144-1156.	3.3	2
67	Flow force augmented 3D suspended polymeric microfluidic (SPMF <sup>3</sup> ) platform. Electrophoresis, 2019, 40, 388-400.	2.4	2
68	Design of an All-reflective Line Based Spectrometer for Optical Coherence Tomography. , 2020, , .		2
69	A Deep Learning Force Estimator System for Intracardiac Catheters. , 2021, , .		2
70	A Novel Tactile Probe with Applications in Biomedical Robotics. , 2006, , .		1
71	Localization of annulus with a tactile sensor. , 2011, , .		1
72	Fiber-mirror integrated compliant mechanical system for measuring force and displacement simultaneously. , 2015, , .		1

#	ARTICLE	IF	CITATIONS
73	Pretensioned Structures as Multi Axis Force Sensors. , 2017, , .		1
74	Software Failures Prediction in Self-Driving Vehicles. , 2020, , .		1
75	Unsteady simulation of distal blood flow in an end-to-side anastomosed coronary bypass graft with stenosis. Bio-Medical Materials and Engineering, 2006, 16, 337-47.	0.6	1
76	Modeling and simulation of blood flow in a sac-type left ventricular assist device. Bio-Medical Materials and Engineering, 2007, 17, 229-33.	0.6	1
77	Graphical representation of tactile sensing data in minimally invasive surgery. , 2007, , .		0
78	A novel method in exploration of arteries inside a tissue and assessment of the arteries by computational approach. , 2010, , .		0
79	A proof-of-principle robot with potential for the development of a hand-held tactile instrument for minimally-invasive artery cross-clamping. Journal of Medical Engineering and Technology, 2014, 38, 295-301.	1.4	0
80	Real-Time 2D Surface Profile Mapping of Biological Tissue with Force Feedback in Robot-Assisted Minimally Invasive Surgery. Applied Mechanics and Materials, 2015, 798, 319-323.	0.2	0
81	Analysis of the effects of different materials in a tooth implant-supported fixed prosthesis using finite element method. Bio-Medical Materials and Engineering, 2005, 15, 317-31.	0.6	0
82	Modeling of chemical control of human respiratory system. Bio-Medical Materials and Engineering, 2005, 15, 467-81.	0.6	0
83	Elastodynamic analysis of the human aorta and the effect of biomechanical parameters on its behavior. Bio-Medical Materials and Engineering, 2007, 17, 235-40.	0.6	0
84	Design of a Linear Wavenumber Spectrometer for Line Scanning Optical Coherence Tomography with 50 mm Focal Length Cylindrical Optics. Sensors, 2022, 22, 3278.	3.8	0
85	Microfabrication Bonding Process Optimization for a 3D Multi-Layer PDMS Suspended Microfluidics. Applied Sciences (Switzerland), 2022, 12, 4626.	2.5	0