Bahram Ravani

List of Publications by Year
in descending order

95 papers	1,569 citations	331538 21 h-index	360920 35 g-index
98 all docs	98 docs citations	98 times ranked	955 citing authors

#	Article	IF	Citations
1	Sub-Second Prediction of the Heatmap of Powder-Beds in Additive Manufacturing Using Deep Encoderâ€"Decoder Convolutional Neural Networks. Journal of Computing and Information Science in Engineering, 2023, 23, .	1.7	2
2	Identifying factors associated with roadside work zone collisions using machine learning techniques. Accident Analysis and Prevention, 2021, 158, 106203.	3.0	12
3	Evaluating Wrong-Way Driving Incidents at Highway Exit Ramps and the Effect of Mitigation. Journal of Transportation Engineering Part A: Systems, 2021, 147, 04021086.	0.8	0
4	Modeling and implementation of a digital twin of material flows based on physics simulation. Journal of Manufacturing Systems, 2021, 58, 231-245.	7.6	78
5	An eco-design for additive manufacturing framework based on energy performance assessment. Additive Manufacturing, 2020, 33, 101120.	1.7	22
6	A method for energy modeling and simulation implementation of machine tools of selective laser melting. Journal of Cleaner Production, 2020, 263, 121282.	4.6	19
7	Computing the composite coefficient of restitution for inelastic impact of dissimilar bodies. International Journal of Impact Engineering, 2019, 133, 103333.	2.4	7
8	Development of a simulation tool for predicting energy consumption of selective laser melting by using MATLAB/Simulink. Procedia CIRP, 2019, 81, 28-33.	1.0	5
9	Validation of a physics engine for the simulation of material flows in cyber-physical production systems. Procedia CIRP, 2019, 81, 494-499.	1.0	7
10	An Algorithm for Trajectory Generation in Redundant Manipulators with Joint Transmission Accommodation. Springer Proceedings in Advanced Robotics, 2019, , 92-99.	0.9	0
11	Shift: A Dynamics Engine for Simulation and Motion Visualization of Complex Mechanisms and Robotic Systems. Mechanisms and Machine Science, 2019, , 3057-3067.	0.3	1
12	A Kalman filtering approach to code positioning for GNSS using Cayley-Menger determinants in distance geometry. Journal of Applied Geodesy, 2018, 12, 45-53.	0.6	1
13	Speeding in highway work zone: An Evaluation of methods of speed control. Accident Analysis and Prevention, 2018, 113, 202-212.	3.0	27
14	Position Measurement Under Uncertainty Using Magnetic Field Sensing. IEEE Transactions on Magnetics, 2018, 54, 1-8.	1.2	12
15	Thermo-Mechanical Stress in High-Frequency Vacuum Electron Devices. Journal of Infrared, Millimeter, and Terahertz Waves, 2017, 38, 47-61.	1.2	11
16	Physical Modeling for Selective Laser Sintering Process. Journal of Computing and Information Science in Engineering, 2017, 17, .	1.7	9
17	A Control-Theoretic Model for Human Time-Motion Evaluation in Pick-and-Place Operations. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2017, 139, .	0.9	1
18	Mechanical Design and Manufacturing of W-Band Sheet Beam Klystron. IEEE Transactions on Electron Devices, 2017, 64, 2675-2682.	1.6	18

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19	A Non-Iterative Carrier Phase Differential GNSS Kinematic Localization Method. , 2017, , .		0
20	Analysis of the Multipass Approach for Collection and Processing of Mobile Laser Scan Data. Journal of Surveying Engineering, - ASCE, 2017, 143, 04017004.	1.0	5
21	A Computational Method for Formulation and Solution of Dynamical Equations for Complex Mechanisms and Multibody Systems. , 2017, , .		1
22	An approach for evaluating collaborative software environments based on integration of house of quality with multi-attribute utility theory. , 2017, , .		2
23	Boresight Calibration of Mobile Laser Scanner Using an External Fixture. Journal of Applied Geodesy, 2016, 10, .	0.6	2
24	Thermomechanical Fatigue in Sub-THz Vacuum Electron Devices. IEEE Transactions on Electron Devices, 2016, 63, 4948-4954.	1.6	6
25	Development of a Control Theoretic Alternative to Fitts' Law With Application to In-Vehicle Touchscreen Interface. , 2015, , .		1
26	A Comparative Experimental Evaluation of IMU Designs. , 2015, , .		1
27	Generalized coordinate partitioning for complex mechanisms based on kinematic substructuring. Mechanism and Machine Theory, 2015, 92, 464-483.	2.7	24
28	Cost-Benefit Analysis of Mobile Terrestrial Laser Scanning Applications for Highway Infrastructure. Journal of Infrastructure Systems, 2014, 20, .	1.0	12
29	Development of a Toolkit for the Analysis and Design of Composite Pressure Vessels. , 2012, , .		0
30	Improvement of a Human-Machine Interface (HMI) for Driver Assistance Using an Event-Driven Prompting Display. IEEE Transactions on Control Systems Technology, 2011, 19, 622-627.	3.2	5
31	Factors Influencing Injury Severity to Highway Workers in Work Zone Intrusion Accidents. Traffic Injury Prevention, 2011, 12, 31-38.	0.6	18
32	On the Regulus Associated With the General Displacement of a Line and Its Application in Determining Displacement Screws. Journal of Mechanisms and Robotics, 2010, 2, .	1.5	3
33	Three-Dimensional Generalizations of Reuleaux's and Instant Center Methods Based on Line Geometry. Journal of Mechanisms and Robotics, 2010, 2, .	1.5	5
34	Generalized penetration depth computation based on kinematical geometry. Computer Aided Geometric Design, 2009, 26, 425-443.	0.5	19
35	Testing and Performance Evaluation of Fixed Terrestrial Three-Dimensional Laser Scanning Systems for Highway Applications. Transportation Research Record, 2009, 2098, 29-40.	1.0	16
36	A Computational Geometric Solution of the Kinematic Registration Problem Using the Bisecting Linear Line Complex. Computer-Aided Design and Applications, 2009, 6, 1-13.	0.4	2

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37	Cylindrical milling of ruled surfaces. International Journal of Advanced Manufacturing Technology, 2008, 38, 649-656.	1.5	43
38	On the linear line complex and helicoidal vector field associated with homologous lines of a finite displacement. Mechanism and Machine Theory, 2008, 43, 138-146.	2.7	5
39	A Geometric Interpretation of Finite Screw Systems Using the Bisecting Linear Line Complex. Journal of Mechanical Design, Transactions of the ASME, 2008, 130, .	1.7	7
40	Mechatronics design and implementation of driver assistance technologies for Intelligent Transportation Systems. , 2008, , .		0
41	On the Regulus Associated With the General Displacement of a Line. , 2007, , 1299.		1
42	A Stochastic Form of a Human Driver Steering Dynamics Model. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2007, 129, 322-336.	0.9	7
43	A Three-Dimensional Generalization of Instant Center Method Using Line Geometry. , 2007, , 1275.		0
44	Transportation Asset Management and Visualization Using Semantic Models and Google Earth. Transportation Research Record, 2007, 2024, 27-34.	1.0	8
45	Design and Implementation of a Mechatronic, All-Accelerometer Inertial Measurement Unit. IEEE/ASME Transactions on Mechatronics, 2007, 12, 640-650.	3.7	74
46	On the Line Geometry of Finite Screw Systems and Point Displacements. , 2006, , 1117.		3
47	Enumeration of Contact Geometries for Kinematic Registration Using Tactile Sensing Fixtures. Journal of Mechanical Design, Transactions of the ASME, 2006, 128, 34-45.	1.7	2
48	A Three-Dimensional Generalization of Reuleaux's Method Based on Line Geometry. , 2006, , 1123.		3
49	Kinematic Registration in 3D Using the 2D Reuleaux Method. Journal of Mechanical Design, Transactions of the ASME, 2006, 128, 349-355.	1.7	19
50	Mechanical Design of a Robotic System for Automatic Installation of Magnetic Markers on the Roadway. Journal of Mechanical Design, Transactions of the ASME, 2006, 128, 413-421.	1.7	0
51	A Snowplowing Resistance Model for Use in Vehicle Dynamic Modeling#. Mechanics Based Design of Structures and Machines, 2005, 33, 359-372.	3.4	5
52	Kinematic Registration Using Line Geometry. , 2004, , 1389.		8
53	Local Metrics for Rigid Body Displacements. Journal of Mechanical Design, Transactions of the ASME, 2004, 126, 805-812.	1.7	14
54	Work equivalent composite coefficient of restitution. International Journal of Impact Engineering, 2004, 30, 581-591.	2.4	62

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55	From curve design algorithms to the design of rigid body motions. Visual Computer, 2004, 20, 279-297.	2.5	30
56	Effect of Backup Ratio on Root Stresses in Spur Gear Design. Mechanics Based Design of Structures and Machines, 2004, 32, 423-440.	3.4	7
57	Variational Motion Design. , 2004, , 361-370.		5
58	Mobility of Spatial Multi-Loop and Mixed Linkages. , 2004, , 133-142.		1
59	Effect of Backup Ratio on Root Stresses in Spur Gear Design. Mechanics Based Design of Structures and Machines, 2004, 32, 423-440.	3.4	1
60	Lie Algebra and the Mobility of Kinematic Chains. Journal of Field Robotics, 2003, 20, 477-499.	0.7	70
61	Geometric design of motions constrainedÂbyÂaÂcontactingÂsurfaceÂpair. Computer Aided Geometric Design, 2003, 20, 523-547.	0.5	10
62	A mechatronic sensing system for vehicle guidance and control. IEEE/ASME Transactions on Mechatronics, 2003, 8, 500-510.	3.7	28
63	A Biomechanical Evaluation of Whiplash Using a Multi-Body Dynamic Model. Journal of Biomechanical Engineering, 2003, 125, 254-265.	0.6	22
64	On Mobility Analysis of Linkages Using Group Theory. Journal of Mechanical Design, Transactions of the ASME, 2003, 125, 70-80.	1.7	77
65	A DIFFERENTIAL GEOMETRIC METHOD FOR KINEMATIC ANALYSIS OF TWO- AND THREE-DEGREE-OF-FREEDOM RIGID BODY MOTIONS*. Mechanics Based Design of Structures and Machines, 2002, 30, 279-307.	0.6	1
66	Design of Developable Surfaces Using Optimal Control. Journal of Mechanical Design, Transactions of the ASME, 2002, 124, 602-608.	1.7	17
67	Kinematic Generation of Ruled Surfaces. Advances in Computational Mathematics, 2002, 17, 115-133.	0.8	16
68	A Differential-Geometric Analysis of Singularities of Point Trajectories of Serial and Parallel Manipulators. Journal of Mechanical Design, Transactions of the ASME, 2001, 123, 80-89.	1.7	29
69	Minkowski Geometric Algebra of Complex Sets. Geometriae Dedicata, 2001, 85, 283-315.	0.1	36
70	Singularities of motions constrained by contacting surfaces. Mechanism and Machine Theory, 2000, 35, 963-984.	2.7	9
71	Algorithms for Minkowski products and implicitlyâ€defined complex sets. Advances in Computational Mathematics, 2000, 13, 199-229.	0.8	21
72	Sensor-based path planning and motion control for a robotic system for roadway crack sealing. IEEE Transactions on Control Systems Technology, 2000, 8, 609-622.	3.2	26

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73	An introduction to line geometry with applications. CAD Computer Aided Design, 1999, 31, 3-16.	1.4	90
74	On the computational geometry of ruled surfaces. CAD Computer Aided Design, 1999, 31, 17-32.	1.4	58
75	Geometric continuity of ruled surfaces. Computer Aided Geometric Design, 1998, 15, 289-310.	0.5	19
76	Computational Issues in the Kinematic Design of Tactile Sensing Fixtures. NATO ASI Series Series F: Computer and System Sciences, 1998, , 130-143.	0.3	2
77	A Dual Ellipse Is a Cylindroid. , 1998, , .		1
78	Smooth invariant interpolation of rotations. ACM Transactions on Graphics, 1997, 16, 277-295.	4.9	141
79	Curves with rational Frenet-Serret motion. Computer Aided Geometric Design, 1997, 15, 79-101.	0.5	43
80	Ruled Surfaces, Lie Groups, and Mesh Generation. , 1997, , .		12
81	Rational Ruled Surfaces and Their Offsets. Graphical Models, 1996, 58, 544-552.	1.4	42
82	Journal of Mechanical Design Web Page. Journal of Mechanical Design, Transactions of the ASME, 1995, 117, 1-1.	1.7	0
83	Special 50th Anniversary Design Issue. Journal of Vibration and Acoustics, Transactions of the ASME, 1995, 117, 1-1.	1.0	1
84	Special 50th Anniversary Design Issue. Journal of Mechanical Design, Transactions of the ASME, 1995, 117, 1-1.	1.7	3
85	Linking a powerful tool to manufacturing processes. Journal of Manufacturing Systems, 1995, 14, ii.	7.6	0
86	A Dedication to Professor Faydor L. Litvin in Celebration of His Eightieth Birthday. Journal of Mechanical Design, Transactions of the ASME, 1994, 116, 671-671.	1.7	1
87	Editorial: Reduction of Backlog and Electronic Submission of Papers. Journal of Mechanical Design, Transactions of the ASME, 1993, 115, 193-193.	1.7	0
88	Theory of contact for geometric continuity of parametric curves. Visual Computer, 1992, 8, 338-350.	2.5	5
89	Optimal twist vectors as a tool for interpolating a network of curves with a minimum energy surface. Computer Aided Geometric Design, 1990, 7, 465-473.	0.5	28
90	Robotics application in manufacturing. Journal of Manufacturing Systems, 1988, 7, v-vii.	7.6	0

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91	World Modeling for CAD Based Robot Programming and Simulation. , 1988, , 67-89.		4
92	Dynamic Simulation of Legged Machines Using a Compliant Joint Model. International Journal of Robotics Research, 1987, 6, 33-46.	5.8	20
93	Dynamic Simulation of Legged Machines Using a Compliant Joint Model. International Journal of Robotics Research, 1987, 6, 33-36.	5.8	11
94	Computer-Aided Off-Line Planning and Programming of Robot Motion. International Journal of Robotics Research, 1986, 4, 18-31.	5.8	34
95	Trailer Side Underride Crash Testing: Relating Collision Damage to Impact Speed. , 0, , .		2