

Murat Cenk Cavusoglu

List of Publications by Citations

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81
papers

1,667
citations

20
h-index

39
g-index

89
ext. papers

1,908
ext. citations

2.8
avg. IF

4.83
L-index

| # | Paper | IF | Citations |
|----|--|-----|-----------|
| 81 | In touch with robotics: neurosurgery for the future. <i>Neurosurgery</i> , 2005 , 56, 421-33; discussion 421-33 | 3.2 | 147 |
| 80 | A Critical Study of the Mechanical and Electrical Properties of the PHANToM Haptic Interface and Improvements for Highperformance Control. <i>Presence: Teleoperators and Virtual Environments</i> , 2002 , 11, 555-568 | 2.9 | 147 |
| 79 | Intelligent control algorithms for robotic-assisted beating heart surgery. <i>IEEE Transactions on Robotics</i> , 2007 , 23, 468-480 | 6.5 | 115 |
| 78 | Personal Navigation via High-Resolution Gait-Corrected Inertial Measurement Units. <i>IEEE Transactions on Instrumentation and Measurement</i> , 2010 , 59, 3018-3027 | 5.2 | 109 |
| 77 | A Virtual Environment Testbed for Training Laparoscopic Surgical Skills. <i>Presence: Teleoperators and Virtual Environments</i> , 2000 , 9, 236-255 | 2.9 | 103 |
| 76 | A laparoscopic telesurgical workstation. <i>IEEE Transactions on Automation Science and Engineering</i> , 1999 , 15, 728-739 | | 88 |
| 75 | Robotics for telesurgery: second generation Berkeley/UCSF laparoscopic telesurgical workstation and looking towards the future applications. <i>Industrial Robot</i> , 2003 , 30, 22-29 | 1.4 | 79 |
| 74 | Design and Characterization of a Novel Hybrid Actuator Using Shape Memory Alloy and DC Micromotor for Minimally Invasive Surgery Applications. <i>IEEE/ASME Transactions on Mechatronics</i> , 2007 , 12, 455-464 | 5.5 | 54 |
| 73 | Estimation of Soft Tissue Mechanical Parameters from Robotic Manipulation Data. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013 , 18, 1602-1611 | 5.5 | 45 |
| 72 | Needle Path Planning for Autonomous Robotic Surgical Suturing. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2013 , 2013, 1669-1675 | 2.2 | 45 |
| 71 | Virtual reality simulation: basic concepts and use in endoscopic neurosurgery training. <i>Childs Nervous System</i> , 2013 , 29, 1235-44 | 1.7 | 44 |
| 70 | Heart Motion Prediction Based on Adaptive Estimation Algorithms for Robotic Assisted Beating Heart Surgery. <i>IEEE Transactions on Robotics</i> , 2013 , 29, 261-276 | 6.5 | 39 |
| 69 | Modeling and Validation of the Three-Dimensional Deflection of an MRI-Compatible Magnetically Actuated Steerable Catheter. <i>IEEE Transactions on Biomedical Engineering</i> , 2016 , 63, 2142-54 | 5 | 31 |
| 68 | Design of a Parallel Robot for Needle-Based Interventions on Small Animals. <i>IEEE/ASME Transactions on Mechatronics</i> , 2013 , 18, 62-73 | 5.5 | 31 |
| 67 | GiPSi:a framework for open source/open architecture software development for organ-level surgical simulation. <i>IEEE Transactions on Information Technology in Biomedicine</i> , 2006 , 10, 312-22 | | 31 |
| 66 | Human-arm-and-hand-dynamic model with variability analyses for a stylus-based haptic interface. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , 2012 , 42, 1633-44 | | 27 |
| 65 | Three Dimensional Modeling of an MRI Actuated Steerable Catheter System. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2014 , 2014, 4393-4398 | 2.2 | 24 |

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| 64 | Iterative Jacobian-Based Inverse Kinematics and Open-Loop Control of an MRI-Guided Magnetically Actuated Steerable Catheter System. <i>IEEE/ASME Transactions on Mechatronics</i> , 2017 , 22, 1765-1776 | 5.5 | 23 |
| 63 | Determination of elasticity parameters in lumped element (mass-spring) models of deformable objects. <i>Graphical Models</i> , 2010 , 72, 61-73 | 0.9 | 22 |
| 62 | Improved prediction of heart motion using an adaptive filter for robot assisted beating heart surgery 2007 , | | 20 |
| 61 | Pseudo-Rigid-Body Model and Kinematic Analysis of MRI-Actuated Catheters. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2015 , 2015, 2263-2243 | 2.2 | 19 |
| 60 | Modeling of Needle-Tissue Interaction Forces During Surgical Suturing. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2012 , 2012, 4675-4680 | 2.2 | 19 |
| 59 | Whisker-Like Position Sensor for Measuring Physiological Motion. <i>IEEE/ASME Transactions on Mechatronics</i> , 2008 , 13, 538-547 | 5.5 | 19 |
| 58 | Real-Time Visual Tracking of Dynamic Surgical Suture Threads. <i>IEEE Transactions on Automation Science and Engineering</i> , 2018 , 15, 1078-1090 | 4.9 | 19 |
| 57 | Quantitative Comparison of Bilateral Teleoperation Systems Using μ -Synthesis 2007 , 23, 776-789 | | 18 |
| 56 | Needle Grasp and Entry Port Selection for Automatic Execution of Suturing Tasks in Robotic Minimally Invasive Surgery. <i>IEEE Transactions on Automation Science and Engineering</i> , 2016 , 13, 552-563 | 4.9 | 16 |
| 55 | Task-Space Motion Planning of MRI-Actuated Catheters for Catheter Ablation of Atrial Fibrillation. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2014 , 2014, 3476-3482 | 0.6 | 16 |
| 54 | Personal navigation via shoe mounted inertial measurement units 2010 , | | 16 |
| 53 | Jacobian-Based Task-Space Motion Planning for MRI-Actuated Continuum Robots. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 145-152 | 4.2 | 15 |
| 52 | Prediction of heartbeat motion with a generalized adaptive filter 2008 , | | 14 |
| 51 | Whisker Sensor Design for Three Dimensional Position Measurement in Robotic Assisted Beating Heart Surgery. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007 , | | 14 |
| 50 | Vision-Based Surgical Tool Pose Estimation for the da Vinci Robotic Surgical System. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2018 , 2018, 1298-1305 | 0.6 | 14 |
| 49 | Experimental Validation of the Pseudo-Rigid-Body Model of the MRI-Actuated Catheter. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2017 , 2017, 3600-3605 | 2.2 | 13 |
| 48 | Camera-Robot Calibration for the da Vinci Robotic Surgery System. <i>IEEE Transactions on Automation Science and Engineering</i> , 2020 , 17, 2154-2161 | 4.9 | 12 |
| 47 | Towards active tracking of beating heart motion in the presence of arrhythmia for robotic assisted beating heart surgery. <i>PLoS ONE</i> , 2014 , 9, e102877 | 3.7 | 12 |

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| 46 | Virtual environment-based training simulator for endoscopic third ventriculostomy. <i>Studies in Health Technology and Informatics</i> , 2006 , 119, 73-5 | 0.5 | 12 |
| 45 | Estimation of Soft Tissue Mechanical Parameters from Robotic Manipulation Data. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2012 , 2012, 4667-4674 | 2.2 | 11 |
| 44 | Design of a Magnetic Resonance Imaging Guided Magnetically Actuated Steerable Catheter. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2017 , 11, 0210041-2100411 | 1.3 | 10 |
| 43 | A detection scheme for frontalis and temporalis muscle EMG contamination of EEG data. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 4514-8 | | 10 |
| 42 | Needle-Tissue Interaction Force State Estimation for Robotic Surgical Suturing. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2016 , 2016, 3659-3664 | 0.6 | 10 |
| 41 | Personal Inertial Navigation System Assisted by MEMS Ground Reaction Sensor Array and Interface ASIC for GPS-Denied Environment. <i>IEEE Journal of Solid-State Circuits</i> , 2018 , 53, 3039-3049 | 5.5 | 10 |
| 40 | Automatic Initialization and Dynamic Tracking of Surgical Suture Threads. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2015 , 2015, 4710-4716 | 2.2 | 9 |
| 39 | Identification and Active Exploration of Deformable Object Boundary Constraints through Robotic Manipulation. <i>International Journal of Robotics Research</i> , 2014 , 33, 1446-1461 | 5.7 | 9 |
| 38 | Optimal Needle Grasp Selection for Automatic Execution of Suturing Tasks in Robotic Minimally Invasive Surgery. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2015 , 2015, 2894-2900 | 2.2 | 9 |
| 37 | Design of a framework for modeling, integration and simulation of physiological models. <i>Computer Methods and Programs in Biomedicine</i> , 2012 , 107, 524-37 | 6.9 | 7 |
| 36 | Particle Filter Based Active Localization of Target and Needle in Robotic Image-Guided Intervention Systems 2013 , 2013, 448-454 | | 7 |
| 35 | Three-dimensional human arm and hand dynamics and variability model for a stylus-based haptic interface 2010 , | | 7 |
| 34 | Effect of Visuo-Haptic Co-location on 3D FittsRTask Performance. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2011 , 2011, 3460-3467 | 0.6 | 7 |
| 33 | Model based control algorithms for robotic assisted beating heart surgery. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society</i> , 2006 , 2006, 823-8 | | 7 |
| 32 | High Fidelity Haptic Rendering of Frictional Contact with Deformable Objects in Virtual Environments using Multi-rate Simulation. <i>International Journal of Robotics Research</i> , 2010 , 29, 1778-1792 | 5.7 | 6 |
| 31 | Kinematic calibration of a parallel robot for small animal biopsies 2009 , | | 6 |
| 30 | Heart motion measurement with three dimensional sonomicrometry and acceleration sensing. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2012 , 2012, 4143-4149 | 0.6 | 6 |
| 29 | Design of a small animal biopsy robot. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2008 , 2008, 5601-4 | 0.9 | 6 |

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| 28 | GiPSi: An Open Source/Open Architecture Software Development Framework for Surgical Simulation. <i>Lecture Notes in Computer Science</i> , 2004 , 240-248 | 0.9 | 6 |
| 27 | Catadioptric Stereo Tracking for Three Dimensional Shape Measurement of MRI Guided Catheters. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2016 , 2016, 4422-4428 | 2.2 | 6 |
| 26 | Effect of Visuo-Motor Co-location on 3D FittsRTask Performance in Physical and Virtual Environments. <i>Presence: Teleoperators and Virtual Environments</i> , 2012 , 21, 305-320 | 2.9 | 5 |
| 25 | Description of Instantaneous Restriction Space for Multi-DOFs Bilateral Teleoperation Systems Using Position Sensors in Unstructured Environments. <i>IEEE Transactions on Robotics</i> , 2009 , 25, 1150-1158 | 6.5 | 4 |
| 24 | Parameter Optimization of Pseudo-Rigid-Body Models of MRI-Actuated Catheters. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2016 , 2016, 5112-5115 | 0.9 | 4 |
| 23 | Active Localization and Tracking of Needle and Target in Robotic Image-Guided Intervention Systems. <i>Autonomous Robots</i> , 2018 , 42, 83-97 | 3 | 4 |
| 22 | Three-Dimensional Surgical Needle Localization and Tracking Using Stereo Endoscopic Image Streams. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2018 , 2018, 6617-6624 | 2.2 | 3 |
| 21 | State of the Art and Future Opportunities in MRI-Guided Robot-Assisted Surgery and Interventions. <i>Proceedings of the IEEE</i> , 2022 , 1-25 | 14.3 | 3 |
| 20 | Calibration of 2D Ultrasound in 3D space for Robotic biopsies 2015 , | | 2 |
| 19 | High Fidelity Haptic Rendering of Stick-Slip Frictional Contact With Deformable Objects in Virtual Environments Using Multi-Rate Simulation. <i>Proceedings - IEEE International Conference on Robotics and Automation</i> , 2007 , | | 2 |
| 18 | A Framework for Quantitative Comparison of Bilateral Teleoperation Systems Using /spl mu/-Synthesis 2007 , | | 2 |
| 17 | A Detection Scheme for Frontalis and Temporalis Muscle EMG Contamination of EEG Data | | 2 |
| 16 | Analysis of Dynamic Response of an MRI-Guided Magnetically-Actuated Steerable Catheter System. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2018 , 2018, 4927-4934 | 0.6 | 2 |
| 15 | Contact Stability and Contact Safety of a Magnetic Resonance Imaging-Guided Robotic Catheter Under Heart Surface Motion. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2021 , 143, 071010 | 1.6 | 2 |
| 14 | Task-Oriented Active Sensing via Action Entropy Minimization. <i>IEEE Access</i> , 2019 , 7, 135413-135426 | 3.5 | 1 |
| 13 | Fault Localization in Embedded Control System Software 2015 , | | 1 |
| 12 | Design of a framework for modeling, integration and simulation of physiological models. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2010 , 2010, 1485-9 | 0.9 | 1 |
| 11 | Model Based Control Algorithms for Robotic Assisted Beating Heart Surgery | | 1 |

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| 10 | Analysis of Contact Stability and Contact Safety of a Robotic Intravascular Cardiac Catheter under Blood Flow Disturbances. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2020 , 2020, 3216-3223 | 0.6 | 1 |
| 9 | Analysis of Contact Stability and Contact Safety of a Robotic Intravascular Cardiac Catheter under Blood Flow Disturbances 2020 , 2020, 3216-3223 | | 1 |
| 8 | Differential Image Based Robot to MRI Scanner Registration with Active Fiducial Markers for an MRI-Guided Robotic Catheter System 2020 , 2020, 2958-2964 | | 1 |
| 7 | Contact Stability Analysis of Magnetically-Actuated Robotic Catheter Under Surface Motion. <i>IEEE International Conference on Robotics and Automation: ICRA: [proceedings]</i> , 2020 , 2020, 4455-4462 | 2.2 | 1 |
| 6 | Active Sensing for Continuous State and Action Spaces via Task-Action Entropy Minimization. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2016 , 2016, 4678-4684 | 0.6 | 1 |
| 5 | Localization of Point-of-Interest Positions on Cardiac Surface for Robotic-Assisted Beating Heart Surgery. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2021 , 2021, 4566-4569 | 0.9 | 0 |
| 4 | Differential Image Based Robot to MRI Scanner Registration with Active Fiducial Markers for an MRI-Guided Robotic Catheter System. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2020 , 2020, 2958-2964 | 0.6 | |
| 3 | Towards the Development of a Robotic System for Beating Heart Surgery 2011 , 525-556 | | |
| 2 | A Probabilistic Approach for Contact Stability and Contact Safety Analysis of Robotic Intracardiac Catheter. <i>Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME</i> , 2021 , 143, 094502 | 1.6 | |
| 1 | State Estimation for MRI-Actuated Catheters via Catadioptric Stereo Camera. <i>IEEE International Conference on Intelligent Robots and Systems</i> , 2018 , 2018, 1795-1800 | 0.6 | |