Gregory D Hager

List of Publications by Year
in descending order

130	5,790	94269	102304
papers	citations	37 h-index	66 g-index

131	131	131	4869
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Ethical implications of AI in robotic surgical training: A Delphi consensus statement. European Urology Focus, 2022, 8, 613-622.	1.6	23
2	Pre-Clinical Development of Robot-Assisted Ventriculoscopy for 3-D Image Reconstruction and Guidance of Deep Brain Neurosurgery. IEEE Transactions on Medical Robotics and Bionics, 2022, 4, 28-37.	2.1	3
3	Surgical data science â€“ from concepts toward clinical translation. Medical Image Analysis, 2022, 76, 102306.	7.0	107
4	Characterizing the Details of Spatial Construction: Cognitive Constraints and Variability. Cognitive Science, 2022, 46, e13081.	0.8	3
5	Learning from Synthetic Vehicles. , 2022, , .		0
6	Do Attending and Trainee Surgeons Agree on What Happens in the Operating Room During Septoplasty?. Facial Plastic Surgery and Aesthetic Medicine, 2022, , .	0.5	1
7	SAGE: SLAM with Appearance and Geometry Prior for Endoscopy. , 2022, , .		10
8	A Delphi consensus statement for digital surgery. Npj Digital Medicine, 2022, 5, .	5.7	28
9	Large-Scale Semantic 3-D Reconstruction: Outcome of the 2019 IEEE GRSS Data Fusion Contestâ€”Part A. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 922-935.	2.3	21
10	On the use of simulation in robotics: Opportunities, challenges, and suggestions for moving forward. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	55
11	Large-Scale Semantic 3-D Reconstruction: Outcome of the 2019 IEEE GRSS Data Fusion Contestâ€”Part B. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2021, 14, 1158-1170.	2.3	20
12	DeepCAT: Deep Computer-Aided Triage of Screening Mammography. Journal of Digital Imaging, 2021, 34, 27-35.	1.6	8
13	Deep Learning Detection of Sea Fan Neovascularization From Ultra-Widefield Color Fundus Photographs of Patients With Sickle Cell Hemoglobinopathy. JAMA Ophthalmology, 2021, 139, 206.	1.4	15
14	Responding to a Pandemic: COVID-19 Projects in the Malone Center. Surgical Innovation, 2021, 28, 208-213.	0.4	0
15	Parallelism in Autonomous Robotic Surgery. IEEE Robotics and Automation Letters, 2021, 6, 1824-1831.	3.3	6
16	Fine-Grained Activity Recognition for Assembly Videos. IEEE Robotics and Automation Letters, 2021, 6, 3728-3735.	3.3	13
17	Radiology â€œforensicsâ€• determination of age and sex from chest radiographs using deep learning. Emergency Radiology, 2021, 28, 949-954.	1.0	17
18	SAGES consensus recommendations on an annotation framework for surgical video. Surgical Endoscopy and Other Interventional Techniques, 2021, 35, 4918-4929.	1.3	39

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19	Reconstructing the nasal septum from instrument motion during septoplasty surgery. Journal of Medical Imaging, 2021, 8, 065001.	0.8	0
20	Localization and Control of Magnetic Suture Needles in Cluttered Surgical Site with Blood and Tissue. , 2021, 2021, 524-531.		4
21	Robust Policy Search for an Agile Ground Vehicle Under Perception Uncertainty. , 2021, , .		0
22	Artificial intelligence to diagnose ischemic stroke and identify large vessel occlusions: a systematic review. Journal of NeuroInterventional Surgery, 2020, 12, 156-164.	2.0	194
23	Dense Depth Estimation in Monocular Endoscopy With Self-Supervised Learning Methods. IEEE Transactions on Medical Imaging, 2020, 39, 1438-1447.	5.4	87
24	Automated detection & classification of knee arthroplasty using deep learning. Knee, 2020, 27, 535-542.	0.8	52
25	Deep Learning and Transfer Learning for Optic Disc Laterality Detection: Implications for Machine Learning in Neuro-Ophthalmology. Journal of Neuro-Ophthalmology, 2020, 40, 178-184.	0.4	22
26	Deep hiearchical multi-label classification applied to chest X-ray abnormality taxonomies. Medical Image Analysis, 2020, 66, 101811.	7.0	21
27	â€œGood Robot!â€• Efficient Reinforcement Learning for Multi-Step Visual Tasks with Sim to Real Transfer. IEEE Robotics and Automation Letters, 2020, 5, 6724-6731.	3.3	33
28	Learning Geocentric Object Pose in Oblique Monocular Images. , 2020, , .		14
29	Artificial Intelligenceâ€Based Clinical Decision Support for COVIDâ€19â€“Where Art Thou?. Advanced Intelligent Systems, 2020, 2, 2000104.	3.3	14
30	Refining dataset curation methods for deep learning-based automated tuberculosis screening. Journal of Thoracic Disease, 2020, 12, 5078-5085.	0.6	23
31	Automated detection and classification of shoulder arthroplasty models using deep learning. Skeletal Radiology, 2020, 49, 1623-1632.	1.2	32
32	Reconstructing Sinus Anatomy from Endoscopic Video â€“ Towards a Radiation-Free Approach for Quantitative Longitudinal Assessment. Lecture Notes in Computer Science, 2020, , 3-13.	1.0	11
33	A multi-camera, multi-view system for training and skill assessment for robot-assisted surgery. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 1369-1377.	1.7	7
34	Deep Supervision with Intermediate Concepts. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2019, 41, 1828-1843.	9.7	35
35	Visual Robot Task Planning. , 2019, , .		26
36	Toward Computer Vision Systems That Understand Real-World Assembly Processes. , 2019, , .		2

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37	Deep-Learning-Based Semantic Labeling for 2D Mammography and Comparison of Complexity for Machine Learning Tasks. Journal of Digital Imaging, 2019, 32, 565-570.	1.6	16
38	Endoscopic navigation in the clinic: registration in the absence of preoperative imaging. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 1495-1506.	1.7	4
39	Automated semantic labeling of pediatric musculoskeletal radiographs using deep learning. Pediatric Radiology, 2019, 49, 1066-1070.	1.1	32
40	Segmenting and classifying activities in robot-assisted surgery with recurrent neural networks. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 2005-2020.	1.7	40
41	The deformable most-likely-point paradigm. Medical Image Analysis, 2019, 55, 148-164.	7.0	16
42	Deep Learning Method for Automated Classification of Anteroposterior and Posteroanterior Chest Radiographs. Journal of Digital Imaging, 2019, 32, 925-930.	1.6	26
43	Semantic Stereo for Incidental Satellite Images. , 2019, , .		86
44	Assessment of Automated Identification of Phases in Videos of Cataract Surgery Using Machine Learning and Deep Learning Techniques. JAMA Network Open, 2019, 2, e191860.	2.8	68
45	The CoSTAR Block Stacking Dataset: Learning with Workspace Constraints. , 2019, , .		3
46	Association Between Surgical Trainee Daytime Sleepiness and Intraoperative Technical Skill When Performing Septoplasty. JAMA Facial Plastic Surgery, 2019, 21, 104-109.	2.2	3
47	Recovering Physiological Changes in Nasal Anatomy with Confidence Estimates. Lecture Notes in Computer Science, 2019, , 115-124.	1.0	0
48	Evaluation and Stability Analysis of Video-Based Navigation System for Functional Endoscopic Sinus Surgery on <italic>In Vivo</italic> Clinical Data. IEEE Transactions on Medical Imaging, 2018, 37, 2185-2195.	5.4	49
49	Self-supervised Learning for Dense Depth Estimation in Monocular Endoscopy. Lecture Notes in Computer Science, 2018, , 128-138.	1.0	24
50	A Unified Framework for Multi-view Multi-class Object Pose Estimation. Lecture Notes in Computer Science, 2018, , 263-281.	1.0	88
51	Objective Assessment of Surgical Technical Skill and Competency in the Operating Room. Annual Review of Biomedical Engineering, 2017, 19, 301-325.	5.7	100
52	A Dataset and Benchmarks for Segmentation and Recognition of Gestures in Robotic Surgery. IEEE Transactions on Biomedical Engineering, 2017, 64, 2025-2041.	2.5	181
53	Surgical data science for next-generation interventions. Nature Biomedical Engineering, 2017, 1, 691-696.	11.6	283
54	CoSTAR: Instructing collaborative robots with behavior trees and vision. , 2017, , .		97

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55	Deep Supervision with Shape Concepts for Occlusion-Aware 3D Object Parsing. , 2017, , .		51
56	Surgical data science: the new knowledge domain. Innovative Surgical Sciences, 2017, 2, 109-121.	0.4	31
57	Transition state clustering: Unsupervised surgical trajectory segmentation for robot learning. International Journal of Robotics Research, 2017, 36, 1595-1618.	5.8	58
58	Analysis of the Structure of Surgical Activity for a Suturing and Knot-Tying Task. PLoS ONE, 2016, 11, e0149174.	1.1	24
59	Incremental scene understanding on dense SLAM. , 2016, , .		20
60	Query-by-example surgical activity detection. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 987-996.	1.7	7
61	Task-Level vs. Segment-Level Quantitative Metrics for Surgical Skill Assessment. Journal of Surgical Education, 2016, 73, 482-489.	1.2	26
62	Image-based navigation for functional endoscopic sinus surgery using structure from motion. Proceedings of SPIE, 2016, 9784, .	0.8	19
63	Automatic segmentation and statistical shape modeling of the paranasal sinuses to estimate natural variations. Proceedings of SPIE, 2016, 9784, .	0.8	11
64	System events: readily accessible features for surgical phase detection. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 1201-1209.	1.7	21
65	Learning convolutional action primitives for fine-grained action recognition. , 2016, , .		68
66	Unsupervised surgical data alignment with application to automatic activity annotation. , 2016, , .		10
67	Segmental Spatiotemporal CNNs for Fine-Grained Action Segmentation. Lecture Notes in Computer Science, 2016, , 36-52.	1.0	115
68	Temporal Convolutional Networks: A Unified Approach to Action Segmentation. Lecture Notes in Computer Science, 2016, , 47-54.	1.0	308
69	Beyond spatial pooling: Fine-grained representation learning in multiple domains. , 2015, , .		7
70	A framework for end-user instruction of a robot assistant for manufacturing. , 2015, , .		63
71	Automated objective surgical skill assessment in the operating room from unstructured tool motion in septoplasty. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 981-991.	1.7	59
72	Five-dimensional ultrasound system for soft tissue visualization. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 1927-1939.	1.7	2

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73	An automated images-to-graphs framework for high resolution connectomics. Frontiers in Neuroinformatics, 2015, 9, 20.	1.3	18
74	Elastography Using Multi-Stream GPU: An Application to Online Tracked Ultrasound Elastography, In-Vivo and the da Vinci Surgical System. PLoS ONE, 2014, 9, e115881.	1.1	7
75	Adjutant: A framework for flexible human-machine collaborative systems. , 2014, , .		17
76	AUTOMATED IMAGE ALIGNMENT AND SEGMENTATION TO FOLLOW PROGRESSION OF GEOGRAPHIC ATROPHY IN AGE-RELATED MACULAR DEGENERATION. Retina, 2014, 34, 1296-1307.	1.0	36
77	Ultrasound elastography using multiple images. Medical Image Analysis, 2014, 18, 314-329.	7.0	45
78	Fundus Image Mosaicking for Information Augmentation in Computer-Assisted Slit-Lamp Imaging. IEEE Transactions on Medical Imaging, 2014, 33, 1304-1312.	5.4	21
79	Dynamic Template Tracking and Recognition. International Journal of Computer Vision, 2013, 105, 19-48.	10.9	10
80	A Freehand Ultrasound Elastography System with Tracking for In Vivo Applications. Ultrasound in Medicine and Biology, 2013, 39, 211-225.	0.7	15
81	Surgical gesture classification from video and kinematic data. Medical Image Analysis, 2013, 17, 732-745.	7.0	109
82	Vision-Based Control of a Handheld Surgical Micromanipulator With Virtual Fixtures. IEEE Transactions on Robotics, 2013, 29, 674-683.	7.3	65
83	Evaluation of a System for High-Accuracy 3D Image-Based Registration of Endoscopic Video to C-Arm Cone-Beam CT for Image-Guided Skull Base Surgery. IEEE Transactions on Medical Imaging, 2013, 32, 1215-1226.	5.4	41
84	Anatomical reconstructions of pediatric airways from endoscopic images: A pilot study of the accuracy of quantitative endoscopy. Laryngoscope, 2013, 123, 2880-2887.	1.1	7
85	String Motif-Based Description of Tool Motion for Detecting Skill and Gestures in Robotic Surgery. Lecture Notes in Computer Science, 2013, 16, 26-33.	1.0	32
86	Sequential scene parsing using range and intensity information. , 2012, , .		4
87	Special Issue on Robotic Vision. International Journal of Robotics Research, 2012, 31, 379-380.	5.8	2
88	Color-based hybrid reconstruction for endoscopy. , 2012, , .		6
89	An objective and automated method for assessing surgical skill in endoscopic sinus surgery using eyeâ€tracking and toolâ€motion data. International Forum of Allergy and Rhinology, 2012, 2, 507-515.	1.5	34
90	Objective measures for longitudinal assessment of robotic surgery training. Journal of Thoracic and Cardiovascular Surgery, 2012, 143, 528-534.	0.4	53

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91	Vision-Based Proximity Detection in Retinal Surgery. IEEE Transactions on Biomedical Engineering, 2012, 59, 2291-2301.	2.5	36
92	A System for Video-Based Navigation for Endoscopic Endonasal Skull Base Surgery. IEEE Transactions on Medical Imaging, 2012, 31, 963-976.	5.4	53
93	Scene parsing using a prior world model. International Journal of Robotics Research, 2011, 30, 1477-1507.	5.8	24
94	Vision-Based Navigation in Image-Guided Interventions. Annual Review of Biomedical Engineering, 2011, 13, 297-319.	5.7	103
95	Tactile-Object Recognition From Appearance Information. IEEE Transactions on Robotics, 2011, 27, 473-487.	7.3	124
96	A Meta Method for Image Matching. IEEE Transactions on Medical Imaging, 2011, 30, 1468-1479.	5.4	5
97	Review of methods for objective surgical skill evaluation. Surgical Endoscopy and Other Interventional Techniques, 2011, 25, 356-366.	1.3	198
98	Object mapping, recognition, and localization from tactile geometry. , 2011, , .		39
99	Human-Machine Collaborative surgery using learned models. , 2011, , .		70
100	Intra-operative ultrasound elasticity imaging for monitoring of hepatic tumour thermal ablation. Hpb, 2010, 12, 717-723.	0.1	42
101	Sampling-Based Motion and Symbolic Action Planning with geometric and differential constraints. , 2010, , .		88
102	A Generalized Kernel Consensus-Based Robust Estimator. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2010, 32, 178-184.	9.7	47
103	Characterization and simulation of tactile sensors. , 2010, , .		16
104	Multi-Environment Model Estimation for Motility Analysis of Caenorhabditis elegans. PLoS ONE, 2010, 5, e11631.	1.1	33
105	Active background modeling: Actors on a stage. , 2009, , .		4
106	Real-time Motion Stabilization with B-mode Ultrasound Using Image Speckle Information and Visual Servoing. International Journal of Robotics Research, 2009, 28, 1334-1354.	5.8	48
107	Augmented Reality During Robot-assisted Laparoscopic Partial Nephrectomy: Toward Real-Time 3D-CT to Stereoscopic Video Registration. Urology, 2009, 73, 896-900.	0.5	248
108	Intelligent frame selection for anatomic reconstruction from endoscopic video. , 2009, , .		3

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109	Imageâ€based coronary tracking and beatâ€toâ€beat motion compensation: Feasibility for improving coronary MR angiography. Magnetic Resonance in Medicine, 2008, 60, 604-615.	1.9	13
110	Surgical and Interventional Robotics - Core Concepts, Technology, and Design [Tutorial]. IEEE Robotics and Automation Magazine, 2008, 15, 122-130.	2.2	115
111	Surgical and interventional robotics: part III [Tutorial]. IEEE Robotics and Automation Magazine, 2008, 15, 84-93.	2.2	44
112	Control methods for guidance virtual fixtures in compliant human-machine interfaces. , 2008, , .		9
113	Ultrasound Elastography: A Dynamic Programming Approach. IEEE Transactions on Medical Imaging, 2008, 27, 1373-1377.	5.4	130
114	Anatomical Reconstruction from Endoscopic Images: Toward Quantitative Endoscopy. American Journal of Rhinology & Allergy, 2008, 22, 47-51.	2.3	7
115	Deformable Motion Tracking of Cardiac Structures (DEMOTRACS) for Improved MR Imaging. , 2007, , .		2
116	Kernel-based visual servoing. , 2007, , .		61
117	Full Motion Tracking in Ultrasound Using Image Speckle Information and Visual Servoing. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	30
118	Dynamic Guidance with Pseudoadmittance Virtual Fixtures. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	17
119	A Nonparametric Treatment for Location/Segmentation Based Visual Tracking. , 2007, , .		52
120	Efficient particle filtering using RANSAC with application to 3D face tracking. Image and Vision Computing, 2006, 24, 581-592.	2.7	20
121	Towards automatic skill evaluation: Detection and segmentation of robot-assisted surgical motions. Computer Aided Surgery, 2006, 11, 220-230.	1.8	186
122	Bootstrapped ultrasound calibration. Studies in Health Technology and Informatics, 2006, 119, 61-6.	0.2	9
123	Scale-invariant registration of monocular endoscopic images to CT-scans for sinus surgery. Medical Image Analysis, 2005, 9, 413-426.	7.0	95
124	Navigating inner space: 3-D assistance for minimally invasive surgery. Robotics and Autonomous Systems, 2005, 52, 5-26.	3.0	49
125	Analysis of composite gestures with a coherent probabilistic graphical model. Virtual Reality, 2005, 8, 242-252.	4.1	4
126	VICs: A modular HCI framework using spatiotemporal dynamics. Machine Vision and Applications, 2004, 16, 13-20.	1.7	14

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127	Robot-Assisted Stapedotomy: Micropick Fenestration of the Stapes Footplate. Otolaryngology - Head and Neck Surgery, 2002, 127, 417-426.	1.1	45
128	Incremental Focus of Attention for Robust Vision-Based Tracking. , 1999, 35, 45-63.		58
129	Computational Vision at Yale. International Journal of Computer Vision, 1999, 35, 5-12.	10.9	1
130	X Vision: A Portable Substrate for Real-Time Vision Applications. Computer Vision and Image Understanding, 1998, 69, 23-37.	3.0	159