

Stefanie Speidel

List of Publications by Year in descending order

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Version: 2024-02-01

78
papers

2,951
citations

186265

28
h-index

175258

52
g-index

83
all docs

83
docs citations

83
times ranked

2898
citing authors

#	ARTICLE	IF	CITATIONS
1	IMHOTEP: cross-professional evaluation of a three-dimensional virtual reality system for interactive surgical operation planning, tumor board discussion and immersive training for complex liver surgery in a head-mounted display. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2022, 36, 126-134.	2.4	20
2	Automatic, global registration in laparoscopic liver surgery. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 167-176.	2.8	12
3	SERV-CT: A disparity dataset from cone-beam CT for validation of endoscopic 3D reconstruction. <i>Medical Image Analysis</i> , 2022, 76, 102302.	11.6	22
4	A Platform and Multisided Market for Translational, Software-Defined Medical Procedures in the Operating Room (OP 4.1): Proof-of-Concept Study. <i>JMIR Medical Informatics</i> , 2022, 10, e27743.	2.6	1
5	Surgical data science – from concepts toward clinical translation. <i>Medical Image Analysis</i> , 2022, 76, 102306.	11.6	107
6	Does caffeine consumption affect laparoscopic skills in a motion tracking analysis? A prospective, randomized, blinded crossover trial. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2022, 36, 4359-4368.	2.4	3
7	Gesture Recognition in Robotic Surgery With Multimodal Attention. <i>IEEE Transactions on Medical Imaging</i> , 2022, 41, 1677-1687.	8.9	16
8	Healing Hands: The Tactile Internet in Future Tele-Healthcare. <i>Sensors</i> , 2022, 22, 1404.	3.8	8
9	Robot-Assisted Minimally Invasive Surgery – Surgical Robotics in the Data Age. <i>Proceedings of the IEEE</i> , 2022, 110, 835-846.	21.3	44
10	A Delphi consensus statement for digital surgery. <i>Npj Digital Medicine</i> , 2022, 5, .	10.9	28
11	Comparative validation of multi-instance instrument segmentation in endoscopy: Results of the ROBUST-MIS 2019 challenge. <i>Medical Image Analysis</i> , 2021, 70, 101920.	11.6	41
12	Surgical assistance and training. , 2021, , 23-39.		0
13	Heidelberg colorectal data set for surgical data science in the sensor operating room. <i>Scientific Data</i> , 2021, 8, 101.	5.3	37
14	Data-Driven Intra-Operative Estimation of Anatomical Attachments for Autonomous Tissue Dissection. <i>IEEE Robotics and Automation Letters</i> , 2021, 6, 1856-1863.	5.1	8
15	Investigating the utility of VR for spatial understanding in surgical planning: evaluation of head-mounted to desktop display. <i>Scientific Reports</i> , 2021, 11, 13440.	3.3	27
16	Comparison of Conventional Methods for Bowel Length Measurement in Laparoscopic Surgery to a Novel Computer-Assisted 3D Measurement System. <i>Obesity Surgery</i> , 2021, 31, 4692-4700.	2.1	3
17	Machine Learning for Surgical Phase Recognition. <i>Annals of Surgery</i> , 2021, 273, 684-693.	4.2	135
18	Long-Term Temporally Consistent Unpaired Video Translation from Simulated Surgical 3D Data. , 2021, , .		13

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19	Interventional imaging: Vision. , 2020, , 721-745.		3
20	Kidney edge detection in laparoscopic image data for computer-assisted surgery. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 379-387.	2.8	17
21	Artificial Intelligence-Assisted Surgery: Potential and Challenges. Visceral Medicine, 2020, 36, 450-455.	1.3	19
22	A case study: impact of target surface mesh size and mesh quality on volume-to-surface registration performance in hepatic soft tissue navigation. International Journal of Computer Assisted Radiology and Surgery, 2020, 15, 1235-1245.	2.8	1
23	Rethinking Anticipation Tasks: Uncertainty-Aware Anticipation of Sparse Surgical Instrument Usage for Context-Aware Assistance. Lecture Notes in Computer Science, 2020, , 752-762.	1.3	11
24	Non-Rigid Volume to Surface Registration Using a Data-Driven Biomechanical Model. Lecture Notes in Computer Science, 2020, , 724-734.	1.3	16
25	Patch-based adaptive weighting with segmentation and scale (PAWSS) for visual tracking in surgical video. Medical Image Analysis, 2019, 57, 120-135.	11.6	9
26	Active learning using deep Bayesian networks for surgical workflow analysis. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 1079-1087.	2.8	41
27	Learning soft tissue behavior of organs for surgical navigation with convolutional neural networks. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 1147-1155.	2.8	53
28	Prediction of laparoscopic procedure duration using unlabeled, multimodal sensor data. International Journal of Computer Assisted Radiology and Surgery, 2019, 14, 1089-1095.	2.8	36
29	Generating Large Labeled Data Sets for Laparoscopic Image Processing Tasks Using Unpaired Image-to-Image Translation. Lecture Notes in Computer Science, 2019, , 119-127.	1.3	43
30	Computer-assisted 3D bowel length measurement for quantitative laparoscopy. Surgical Endoscopy and Other Interventional Techniques, 2018, 32, 4052-4061.	2.4	5
31	Exploiting the potential of unlabeled endoscopic video data with self-supervised learning. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 925-933.	2.8	93
32	IMHOTEP: virtual reality framework for surgical applications. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 741-748.	2.8	35
33	Why rankings of biomedical image analysis competitions should be interpreted with care. Nature Communications, 2018, 9, 5217.	12.8	198
34	Toward a standard ontology of surgical process models. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 1397-1408.	2.8	54
35	IPCAI 2018 Special Issue: Information Processing for Computer-Assisted Interventions, 9th International Conference 2018â€”Part 1. International Journal of Computer Assisted Radiology and Surgery, 2018, 13, 607-610.	2.8	1
36	Temporal Coherence-based Self-supervised Learning for Laparoscopic Workflow Analysis. Lecture Notes in Computer Science, 2018, , 85-93.	1.3	18

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37	Generative adversarial networks for specular highlight removal in endoscopic images. , 2018, , .		29
38	Using water-soluble additive manufacturing for cheap and soft silicon organ models. , 2018, , .		1
39	Comparative Validation of Polyp Detection Methods in Video Colonoscopy: Results From the MICCAI 2015 Endoscopic Vision Challenge. IEEE Transactions on Medical Imaging, 2017, 36, 1231-1249.	8.9	297
40	Projective biomechanical depth matching for soft tissue registration in laparoscopic surgery. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 1101-1110.	2.8	19
41	Paradigm shift: cognitive surgery. Innovative Surgical Sciences, 2017, 2, 139-143.	0.7	9
42	Surgical data science for next-generation interventions. Nature Biomedical Engineering, 2017, 1, 691-696.	22.5	283
43	Development and validation of a sensor- and expert model-based training system for laparoscopic surgery: the iSurgeon. Surgical Endoscopy and Other Interventional Techniques, 2017, 31, 2155-2165.	2.4	56
44	Towards an open-source semantic data infrastructure for integrating clinical and scientific data in cognition-guided surgery. , 2016, , .		5
45	Image-based laparoscopic bowel measurement. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 407-419.	2.8	17
46	Bridging the gap between formal and experience-based knowledge for context-aware laparoscopy. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 881-888.	2.8	18
47	Superpixel-based structure classification for laparoscopic surgery. , 2016, , .		2
48	Toward cognitive pipelines of medical assistance algorithms. International Journal of Computer Assisted Radiology and Surgery, 2016, 11, 1743-1753.	2.8	7
49	Robust endoscopic pose estimation for intraoperative organ-mosaicking. Proceedings of SPIE, 2016, , .	0.8	0
50	Electromagnetic organ tracking allows for real-time compensation of tissue shift in image-guided laparoscopic rectal surgery: results of a phantom study. Surgical Endoscopy and Other Interventional Techniques, 2016, 30, 495-503.	2.4	16
51	Intraoperative on-the-fly organ-mosaicking for laparoscopic surgery. Journal of Medical Imaging, 2015, 2, 045001.	1.5	13
52	Enhancing 4D PC-MRI in an aortic phantom considering numerical simulations. Proceedings of SPIE, 2015, , .	0.8	1
53	Crowdtruth validation: a new paradigm for validating algorithms that rely on image correspondences. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 1201-1212.	2.8	29
54	OpenHELP (Heidelberg laparoscopy phantom): development of an open-source surgical evaluation and training tool. Surgical Endoscopy and Other Interventional Techniques, 2015, 29, 3338-3347.	2.4	30

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55	Integration of a biomechanical simulation for mitral valve reconstruction into a knowledge-based surgery assistance system. Proceedings of SPIE, 2015, , .	0.8	2
56	LapOntoSPM: an ontology for laparoscopic surgeries and its application to surgical phase recognition. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 1427-1434.	2.8	54
57	A system for context-aware intraoperative augmented reality in dental implant surgery. International Journal of Computer Assisted Radiology and Surgery, 2015, 10, 101-108.	2.8	51
58	Comparative Validation of Single-Shot Optical Techniques for Laparoscopic 3-D Surface Reconstruction. IEEE Transactions on Medical Imaging, 2014, 33, 1913-1930.	8.9	88
59	Physics-based shape matching for intraoperative image guidance. Medical Physics, 2014, 41, 111901.	3.0	65
60	Real-time image guidance in laparoscopic liver surgery: first clinical experience with a guidance system based on intraoperative CT imaging. Surgical Endoscopy and Other Interventional Techniques, 2014, 28, 933-940.	2.4	89
61	Can Masses of Non-Experts Train Highly Accurate Image Classifiers?. Lecture Notes in Computer Science, 2014, 17, 438-445.	1.3	56
62	Pose-independent surface matching for intra-operative soft-tissue marker-less registration. Medical Image Analysis, 2014, 18, 1101-1114.	11.6	31
63	Model-based formalization of medical knowledge for context-aware assistance in laparoscopic surgery. , 2014, , .		0
64	Non-invasive computation of aortic pressure maps: a phantom-based study of two approaches. , 2014, , .		1
65	Knowledge-Driven Formalization of Laparoscopic Surgeries for Rule-Based Intraoperative Context-Aware Assistance. Lecture Notes in Computer Science, 2014, , 158-167.	1.3	19
66	Crowdsourcing for Reference Correspondence Generation in Endoscopic Images. Lecture Notes in Computer Science, 2014, 17, 349-356.	1.3	26
67	Optical techniques for 3D surface reconstruction in computer-assisted laparoscopic surgery. Medical Image Analysis, 2013, 17, 974-996.	11.6	217
68	Context-aware Augmented Reality in laparoscopic surgery. Computerized Medical Imaging and Graphics, 2013, 37, 174-182.	5.8	59
69	Ontology-based prediction of surgical events in laparoscopic surgery. , 2013, , .		6
70	Lightweight distributed computing for intraoperative real-time image guidance. Proceedings of SPIE, 2012, , .	0.8	1
71	Dense GPU-enhanced surface reconstruction from stereo endoscopic images for intraoperative registration. Medical Physics, 2012, 39, 1632-1645.	3.0	59
72	Quadratic Corotated Finite Elements for Real-Time Soft Tissue Registration. , 2012, , 39-50.		3

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73	A biomechanical liver model for intraoperative soft tissue registration. , 2011, , .		7
74	Automatic classification of minimally invasive instruments based on endoscopic image sequences. Proceedings of SPIE, 2009, , .	0.8	25
75	Recognition of risk situations based on endoscopic instrument tracking and knowledge based situation modeling. , 2008, , .		16
76	MEDIASSIST: medical assistance for intraoperative skill transfer in minimally invasive surgery using augmented reality. , 2007, , .		5
77	Tracking of Instruments in Minimally Invasive Surgery for Surgical Skill Analysis. Lecture Notes in Computer Science, 2006, , 148-155.	1.3	38
78	An Interactive Virtual Reality Environment for Analysis of Clinical Atrial Arrhythmias and Ablation Planning. , 0, , .		3