

Thomas Neumuth

List of Publications by Year in descending order

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Version: 2024-02-01

95
papers

1,607
citations

361413

20
h-index

330143

37
g-index

100
all docs

100
docs citations

100
times ranked

1197
citing authors

#	ARTICLE	IF	CITATIONS
1	Surgical data science for next-generation interventions. <i>Nature Biomedical Engineering</i> , 2017, 1, 691-696.	22.5	283
2	Surgical data science “ from concepts toward clinical translation. <i>Medical Image Analysis</i> , 2022, 76, 102306.	11.6	107
3	Validation of Knowledge Acquisition for Surgical Process Models. <i>Journal of the American Medical Informatics Association: JAMIA</i> , 2009, 16, 72-80.	4.4	100
4	Analysis of surgical intervention populations using generic surgical process models. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2011, 6, 59-71.	2.8	65
5	Evaluation of hyperspectral imaging (HSI) for the measurement of ischemic conditioning effects of the gastric conduit during esophagectomy. <i>Surgical Endoscopy and Other Interventional Techniques</i> , 2019, 33, 3775-3782.	2.4	63
6	Toward a standard ontology of surgical process models. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2018, 13, 1397-1408.	2.8	54
7	Intervention time prediction from surgical low-level tasks. <i>Journal of Biomedical Informatics</i> , 2013, 46, 152-159.	4.3	52
8	Acquisition of Process Descriptions from Surgical Interventions. <i>Lecture Notes in Computer Science</i> , 2006, , 602-611.	1.3	45
9	Modeling surgical processes: A four-level translational approach. <i>Artificial Intelligence in Medicine</i> , 2011, 51, 147-161.	6.5	45
10	Laparoscopic system for simultaneous high-resolution video and rapid hyperspectral imaging in the visible and near-infrared spectral range. <i>Journal of Biomedical Optics</i> , 2020, 25, .	2.6	36
11	Online recognition of surgical instruments by information fusion. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2012, 7, 297-304.	2.8	34
12	Monitoring of microvascular free flaps following oropharyngeal reconstruction using infrared thermography: first clinical experiences. <i>European Archives of Oto-Rhino-Laryngology</i> , 2016, 273, 2659-2667.	1.6	33
13	The evolution of personalized healthcare and the pivotal role of European regions in its implementation. <i>Personalized Medicine</i> , 2021, 18, 283-294.	1.5	32
14	Tissue classification of oncologic esophageal resectates based on hyperspectral data. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2019, 14, 1651-1661.	2.8	29
15	A Delphi consensus statement for digital surgery. <i>Npj Digital Medicine</i> , 2022, 5, .	10.9	28
16	Similarity metrics for surgical process models. <i>Artificial Intelligence in Medicine</i> , 2012, 54, 15-27.	6.5	27
17	Multi-site study of surgical practice in neurosurgery based on surgical process models. <i>Journal of Biomedical Informatics</i> , 2013, 46, 822-829.	4.3	27
18	Multi-perspective workflow modeling for online surgical situation models. <i>Journal of Biomedical Informatics</i> , 2015, 54, 158-166.	4.3	27

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19	Surgical process modeling. <i>Innovative Surgical Sciences</i> , 2017, 2, 123-137.	0.7	25
20	Classification of hyperspectral endocrine tissue images using support vector machines. <i>International Journal of Medical Robotics and Computer Assisted Surgery</i> , 2020, 16, 1-10.	2.3	25
21	Sensor-based surgical activity recognition in unconstrained environments. <i>Minimally Invasive Therapy and Allied Technologies</i> , 2014, 23, 198-205.	1.2	24
22	Dysphagia, voice problems, and pain in head and neck cancer patients. <i>European Archives of Oto-Rhino-Laryngology</i> , 2021, 278, 3985-3994.	1.6	20
23	Hyperspectral based discrimination of thyroid and parathyroid during surgery. <i>Current Directions in Biomedical Engineering</i> , 2018, 4, 399-402.	0.4	19
24	Online time and resource management based on surgical workflow time series analysis. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2017, 12, 325-338.	2.8	18
25	The intelligent OR: design and validation of a context-aware surgical working environment. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2018, 13, 1301-1308.	2.8	18
26	Surgical Workflow Management Schemata for Cataract Procedures. <i>Methods of Information in Medicine</i> , 2012, 51, 371-382.	1.2	17
27	Predicting treatment process steps from events. <i>Journal of Biomedical Informatics</i> , 2015, 53, 308-319.	4.3	17
28	Intra-operative surgical instrument usage detection on a multi-sensor table. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2015, 10, 351-362.	2.8	16
29	Assessment of technical needs for surgical equipment by surgical process models. <i>Minimally Invasive Therapy and Allied Technologies</i> , 2009, 18, 341-349.	1.2	14
30	Extending BPMN 2.0 for intraoperative workflow modeling with IEEE 11073 SDC for description and orchestration of interoperable, networked medical devices. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2019, 14, 1403-1413.	2.8	14
31	Surgical workflow simulation for the design and assessment of operating room setups in orthopedic surgery. <i>BMC Medical Informatics and Decision Making</i> , 2020, 20, 145.	3.0	14
32	Exploratory study of functional and psychological factors associated with employment status in patients with head and neck cancer. <i>Head and Neck</i> , 2021, 43, 1229-1241.	2.0	13
33	Design and evaluation of a multimedia electronic patient record "oncoflow" with clinical workflow assistance for head and neck tumor therapy. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2014, 9, 949-965.	2.8	12
34	Rule-based medical device adaptation for the digital operating room. , 2015, 2015, 1733-6.		12
35	Ontology-based specification, identification and analysis of perioperative risks. <i>Journal of Biomedical Semantics</i> , 2017, 8, 36.	1.6	12
36	Enabling artificial intelligence in high acuity medical environments. <i>Minimally Invasive Therapy and Allied Technologies</i> , 2019, 28, 120-126.	1.2	12

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37	A deep learning spatial-temporal framework for detecting surgical tools in laparoscopic videos. <i>Biomedical Signal Processing and Control</i> , 2021, 68, 102801.	5.7	12
38	Outcome quality assessment by surgical process compliance measures in laparoscopic surgery. <i>Artificial Intelligence in Medicine</i> , 2015, 63, 85-90.	6.5	10
39	Obtaining Patient-Reported Outcomes Electronically With "OncoFunction" in Head and Neck Cancer Patients During Aftercare. <i>Frontiers in Oncology</i> , 2020, 10, 549915.	2.8	10
40	Requirements for the structured recording of surgical device data in the digital operating room. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2014, 9, 49-57.	2.8	8
41	Surface EMG-based Surgical Instrument Classification for Dynamic Activity Recognition in Surgical Workflows. <i>Current Directions in Biomedical Engineering</i> , 2019, 5, 37-40.	0.4	8
42	Language-based translation and prediction of surgical navigation steps for endoscopic wayfinding assistance in minimally invasive surgery. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2020, 15, 2089-2100.	2.8	8
43	Identification of surgeon's individual treatment profiles to support the provision of an optimum treatment service for cataract patients. <i>Journal of Ocular Biology, Diseases, and Informatics</i> , 2010, 3, 73-83.	0.2	7
44	Auditory display as feedback for a novel eye-tracking system for sterile operating room interaction. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2018, 13, 37-45.	2.8	7
45	Vision-based online recognition of surgical activities. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2014, 9, 979-986.	2.8	6
46	Design and evaluation of an interactive training system for scrub nurses. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2016, 11, 1527-1536.	2.8	6
47	OR.NET " secure dynamic networks in the operating room and clinic. <i>Biomedizinische Technik</i> , 2018, 63, 1-3.	0.8	6
48	Course of Self-Reported Dysphagia, Voice Impairment and Pain in Head and Neck Cancer Survivors. <i>Biology</i> , 2021, 10, 144.	2.8	6
49	2D/3D Registration of TEE Probe from Two Non-orthogonal C-Arm Directions. <i>Lecture Notes in Computer Science</i> , 2014, 17, 283-290.	1.3	6
50	A Deep Learning Framework for Recognising Surgical Phases in Laparoscopic Videos. <i>IFAC-PapersOnLine</i> , 2021, 54, 334-339.	0.9	6
51	The Digital Twin: Modular Model-Based Approach to Personalized Medicine. <i>Current Directions in Biomedical Engineering</i> , 2021, 7, 223-226.	0.4	6
52	Evaluating Electronic Health Record Limitations and Time Expenditure in a German Medical Center. <i>Applied Clinical Informatics</i> , 2021, 12, 1082-1090.	1.7	6
53	GATOR: connecting integrated operating room solutions based on the IEEE 11073 SDC and ORiN standards. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2019, 14, 2233-2243.	2.8	5
54	From SOMDA to application " integration strategies in the OR.NET demonstration sites. <i>Biomedizinische Technik</i> , 2018, 63, 69-80.	0.8	4

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55	Der intelligente HNO-Operationssaal der Zukunft. Laryngo- Rhino- Otologie, 2019, 98, S5-S31.	0.2	4
56	Digital health â€“ Software as a medical device in focus of the medical device regulation (MDR). IT - Information Technology, 2019, 61, 211-218.	0.9	4
57	Automated 3D thorax model generation using handheld video-footage. International Journal of Computer Assisted Radiology and Surgery, 2022, 17, 1707-1716.	2.8	4
58	Towards a framework for standardized semantic workflow modeling and management in the surgical domain. Current Directions in Biomedical Engineering, 2015, 1, 172-175.	0.4	3
59	Video-based detection of device interaction in the operating room. Biomedizinische Technik, 2016, 61, 567-576.	0.8	3
60	Modeling and processing up-to-dateness of patient information in probabilistic therapy decision support. Artificial Intelligence in Medicine, 2020, 104, 101842.	6.5	3
61	The PostStroke-Manager â€“ combining mobile, digital and sensor-based technology with personal assistance: protocol of the feasibility study. Neurological Research and Practice, 2021, 3, 53.	2.0	3
62	Predicting Early Relapse for Patients with Multiple Myeloma through Machine Learning. Blood, 2021, 138, 2953-2953.	1.4	3
63	Requirements for 5G Integrated Data Transfer in German Prehospital Emergency Care. Current Directions in Biomedical Engineering, 2020, 6, 9-12.	0.4	3
64	Changes of Physiological parameters of the patient during laparoscopic gynaecology. Current Directions in Biomedical Engineering, 2021, 7, 500-503.	0.4	3
65	Assessing Generalisation Capabilities of CNN Models for Surgical Tool Classification. Current Directions in Biomedical Engineering, 2021, 7, 476-479.	0.4	3
66	Development of a modular IT-Framework supporting the oncological Patient Treatment in ENT Surgery. Biomedizinische Technik, 2012, 57, .	0.8	2
67	The impact of missing sensor information on surgical workflow management. International Journal of Computer Assisted Radiology and Surgery, 2013, 8, 867-875.	2.8	2
68	Towards structuring contextual information for workflow-driven surgical assistance functionalities. Current Directions in Biomedical Engineering, 2015, 1, 168-171.	0.4	2
69	Surgical instrument similarity metrics and tray analysis for multi-sensor instrument identification. , 2015, , .		2
70	Evaluation of image quality of MRI data for brain tumor surgery. Proceedings of SPIE, 2016, , .	0.8	2
71	Situation-Dependent Medical Device Risk Estimation. Journal of Patient Safety, 2017, Publish Ahead of Print, e622-e630.	1.7	2
72	Context-aware medical technologies - relief or burden for clinical users?. Current Directions in Biomedical Engineering, 2018, 4, 119-122.	0.4	2

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73	Context-awareness for control consoles in integrated operating rooms. <i>Current Directions in Biomedical Engineering</i> , 2018, 4, 291-295.	0.4	2
74	Design and evaluation of an eye tracking support system for the scrub nurse. <i>International Journal of Medical Robotics and Computer Assisted Surgery</i> , 2019, 15, e1954.	2.3	2
75	Increasing efficiency by optimizing table position for elective primary THA and TKA: a prospective monocentric pilot study. <i>Arthroplasty</i> , 2020, 2, 29.	2.2	2
76	Bayesian Networks to Support Decision-Making for Immune-Checkpoint Blockade in Recurrent/Metastatic (R/M) Head and Neck Squamous Cell Carcinoma (HNSCC). <i>Cancers</i> , 2021, 13, 5890.	3.7	2
77	Improvement of manual 2D/3D registration by decoupling the visual influence of the six degrees of freedom. , 2014, , .		1
78	Frequency based assessment of surgical activities. <i>Current Directions in Biomedical Engineering</i> , 2015, 1, 152-156.	0.4	1
79	"not these scissors, the other scissors." - a multi-center study comparing surgical instrument descriptions used by scrub nurses. , 2015, , .		1
80	Standardized semantic workflow modeling in the surgical domain: Proof-of-concept analysis and evaluation for a neurosurgical use-case. , 2015, , .		1
81	Session 8. Image guided, robotic and miniaturised systems for intervention and therapy I. <i>Biomedizinische Technik</i> , 2017, 62, .	0.8	1
82	Perioperative Workflow Simulation and Optimization in Orthopedic Surgery. <i>Lecture Notes in Computer Science</i> , 2018, , 3-11.	1.3	1
83	Towards an integrated emergency medical care using 5G networks. <i>Current Directions in Biomedical Engineering</i> , 2020, 6, 5-8.	0.4	1
84	Using Fast Healthcare Interoperability Resources (FHIR) for the Integration of Risk Minimization Systems in Hospitals. <i>Studies in Health Technology and Informatics</i> , 2017, 245, 1378.	0.3	1
85	A system for real-time multivariate feature combination of endoscopic mitral valve simulator training data. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 1619-1631.	2.8	1
86	Clinical decision support models for oropharyngeal cancer treatment: design and evaluation of a multi-stage knowledge abstraction and formalization process. <i>International Journal of Computer Assisted Radiology and Surgery</i> , 2022, 17, 1643-1650.	2.8	1
87	A Hybrid Optimization Approach for 2D-3D Registrationbased Fusion of Ultrasound and X-Ray. <i>Biomedizinische Technik</i> , 2013, 58 Suppl 1, .	0.8	0
88	A concept of a generalized electronic patient record for personalized medicine. , 2014, , .		0
89	A service for monitoring the quality of intraoperative cone beam CT images. <i>Current Directions in Biomedical Engineering</i> , 2016, 2, 373-377.	0.4	0
90	A concept for consistent and prioritized presentation of surgical information. , 2016, , .		0

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91	Clear oxygen-level forecasts during anaesthesia. Nature Biomedical Engineering, 2018, 2, 715-716.	22.5	0
92	Closed-loop approach for situation awareness of medical devices and operating room infrastructure. Current Directions in Biomedical Engineering, 2015, 1, 176-179.	0.4	0
93	Measuring and evaluating standardization of scrub nurse instrument table setups: a multi-center study. International Journal of Computer Assisted Radiology and Surgery, 2022, 17, 479-485.	2.8	0
94	Nutzung digitalisierter klinischer Daten zur personalisierten Entscheidungsfindung: Ansätze und Ergebnisse aus Leipzig. Laryngo- Rhino- Otologie, 2022, 101, .	0.2	0
95	Using digital clinical data for personalized decision-making: approaches made in Leipzig. Laryngo- Rhino- Otologie, 2022, , .	0.2	0