Muyinatu Bell

List of Publications by Year
in descending order

129 papers	2,702 citations	172457 29 h-index	223800 46 g-index
132 all docs	132 docs citations	132 times ranked	1498 citing authors

#	Article	IF	Citations
1	The Generalized Contrast-to-Noise Ratio: A Formal Definition for Lesion Detectability. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 745-759.	3.0	226
2	Photoacoustic Source Detection and Reflection Artifact Removal Enabled by Deep Learning. IEEE Transactions on Medical Imaging, 2018, 37, 1464-1477.	8.9	163
3	Fund Black scientists. Cell, 2021, 184, 561-565.	28.9	107
4	In vivovisualization of prostate brachytherapy seeds with photoacoustic imaging. Journal of Biomedical Optics, 2014, 19, 126011.	2.6	96
5	Short-lag spatial coherence beamforming of photoacoustic images for enhanced visualization of prostate brachytherapy seeds. Biomedical Optics Express, 2013, 4, 1964.	2.9	88
6	Deep Learning to Obtain Simultaneous Image and Segmentation Outputs From a Single Input of Raw Ultrasound Channel Data. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2493-2509.	3.0	68
7	Localization of Transcranial Targets for Photoacoustic-Guided Endonasal Surgeries. Photoacoustics, 2015, 3, 78-87.	7.8	67
8	Short-Lag Spatial Coherence Imaging of Cardiac Ultrasound Data: Initial Clinical Results. Ultrasound in Medicine and Biology, 2013, 39, 1861-1874.	1.5	65
9	Photoacoustic imaging for surgical guidance: Principles, applications, and outlook. Journal of Applied Physics, 2020, 128, 060904.	2.5	61
10	Transurethral light delivery for prostate photoacoustic imaging. Journal of Biomedical Optics, 2015, 20, 036002.	2.6	59
11	Photoacoustic-based approach to surgical guidance performed with and without a da Vinci robot. Journal of Biomedical Optics, 2017, 22, 1.	2.6	58
12	Application of the generalized contrast-to-noise ratio to assess photoacoustic image quality. Biomedical Optics Express, 2020, 11, 3684.	2.9	58
13	Design of a multifiber light delivery system for photoacoustic-guided surgery. Journal of Biomedical Optics, 2017, 22, 1.	2.6	54
14	A Deep Learning Based Alternative to Beamforming Ultrasound Images. , 2018, , .		53
15	In Vivo Demonstration of Photoacoustic Image Guidance and Robotic Visual Servoing for Cardiac Catheter-Based Interventions. IEEE Transactions on Medical Imaging, 2020, 39, 1015-1029.	8.9	50
16	Photoacoustic-based visual servoing of a needle tip. Scientific Reports, 2018, 8, 15519.	3.3	49
17	Photoacoustic imaging of a human vertebra: implications for guiding spinal fusion surgeries. Physics in Medicine and Biology, 2018, 63, 144001.	3.0	47
18	In vivoliver tracking with a high volume rate 4D ultrasound scanner and a 2D matrix array probe. Physics in Medicine and Biology, 2012, 57, 1359-1374.	3.0	46

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19	Deep Learning for Ultrasound Image Formation: CUBDL Evaluation Framework and Open Datasets. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 3466-3483.	3.0	45
20	Evaluation of 2D and 3D ultrasound tracking algorithms and impact on ultrasoundâ€guided liver radiotherapy margins. Medical Physics, 2018, 45, 4986-5003.	3.0	43
21	Photoacoustic-guided surgery from head to toe [Invited]. Biomedical Optics Express, 2021, 12, 2079.	2.9	38
22	Resolution and brightness characteristics of short-lag spatial coherence (SLSC) images. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1265-1276.	3.0	37
23	CohereNet: A Deep Learning Architecture for Ultrasound Spatial Correlation Estimation and Coherence-Based Beamforming. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2574-2583.	3.0	37
24	In vivo reproducibility of robotic probe placement for a novel ultrasound-guided radiation therapy system. Journal of Medical Imaging, 2014, 1, 1.	1.5	36
25	Deep Learning for Ultrasound Beamforming in Flexible Array Transducer. IEEE Transactions on Medical Imaging, 2021, 40, 3178-3189.	8.9	35
26	Feasibility of photoacoustic-guided teleoperated hysterectomies. Journal of Medical Imaging, 2018, 5, 1.	1.5	35
27	A Generative Adversarial Neural Network for Beamforming Ultrasound Images : Invited Presentation. , 2019, , .		34
28	Deep Learning in Biomedical Optics. Lasers in Surgery and Medicine, 2021, 53, 748-775.	2.1	32
29	Simulations and human cadaver head studies to identify optimal acoustic receiver locations for minimally invasive photoacoustic-guided neurosurgery. Photoacoustics, 2020, 19, 100183.	7.8	31
30	In vivo photoacoustic imaging of major blood vessels in the pancreas and liver during surgery. Journal of Biomedical Optics, 2019, 24, 1.	2.6	31
31	Robust Short-Lag Spatial Coherence Imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 366-377.	3.0	29
32	Robust Short-Lag Spatial Coherence Imaging of Breast Ultrasound Data: Initial Clinical Results. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 527-540.	3.0	29
33	GPU implementation of photoacoustic short-lag spatial coherence imaging for improved image-guided interventions. Journal of Biomedical Optics, 2020, 25, 1.	2.6	29
34	System Integration and In Vivo Testing of a Robot for Ultrasound Guidance and Monitoring During Radiotherapy. IEEE Transactions on Biomedical Engineering, 2017, 64, 1608-1618.	4.2	28
35	A machine learning method to identify and remove reflection artifacts in photoacoustic channel data. , 2017, , .		24
36	Photoacoustic Spatial Coherence Theory and Applications to Coherence-Based Image Contrast and Resolution. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2069-2084.	3.0	24

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37	Combined Ultrasound and Photoacoustic Image Guidance of Spinal Pedicle Cannulation Demonstrated With Intact ex vivo Specimens. IEEE Transactions on Biomedical Engineering, 2021, 68, 2479-2489.	4.2	24
38	Synthetic-aperture based photoacoustic re-beamforming (SPARE) approach using beamformed ultrasound data. Biomedical Optics Express, 2016, 7, 3056.	2.9	23
39	A cooperatively controlled robot for ultrasound monitoring of radiation therapy. , 2013, 2013, 3071-3076.		22
40	Improved contrast in laser-diode-based photoacoustic images with short-lag spatial coherence beamforming. , 2014, , .		22
41	A Review of Deep Learning Applications in Lung Ultrasound Imaging of COVID-19 Patients. BME Frontiers, 2022, 2022, .	4.5	22
42	Toward Standardized Acoustic Radiation Force (ARF)-Based Ultrasound Elasticity Measurements With Robotic Force Control. IEEE Transactions on Biomedical Engineering, 2016, 63, 1517-1524.	4.2	21
43	Feasibility study of ultrasound imaging for stereotactic body radiation therapy with active breathing coordinator in pancreatic cancer. Journal of Applied Clinical Medical Physics, 2017, 18, 84-96.	1.9	21
44	The UltraSound ToolBox. , 2017, , .		20
45	A Fully Convolutional Neural Network for Beamforming Ultrasound Images. , 2018, , .		20
46	2D ultrasound imaging based intra-fraction respiratory motion tracking for abdominal radiation therapy using machine learning. Physics in Medicine and Biology, 2019, 64, 185006.	3.0	18
47	Coherence-Based Beamforming Increases the Diagnostic Certainty of Distinguishing Fluid from Solid Masses in Breast Ultrasound Exams. Ultrasound in Medicine and Biology, 2020, 46, 1380-1394.	1.5	18
48	A machine learning approach to identifying point source locations in photoacoustic data. Proceedings of SPIE, 2017, , .	0.8	16
49	A Conditional Adversarial Network for Single Plane Wave Beamforming. , 2020, , .		15
50	Photoacoustic-Guided Laparoscopic and Open Hysterectomy Procedures Demonstrated With Human Cadavers. IEEE Transactions on Medical Imaging, 2021, 40, 3279-3292.	8.9	14
51	Empirical assessment of laser safety for photoacoustic-guided liver surgeries. Biomedical Optics Express, 2021, 12, 1205.	2.9	14
52	Challenge on Ultrasound Beamforming with Deep Learning (CUBDL). , 2020, , .		14
53	Beamforming with deep learning from single plane wave RF data. , 2020, , .		13
54	Additive noise models for photoacoustic spatial coherence theory. Biomedical Optics Express, 2018, 9, 5566.	2.9	13

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55	Photoacoustic image guidance for robot-assisted skull base surgery. , 2015, , .		12
56	System integration and preliminary in-vivo experiments of a robot for ultrasound guidance and monitoring during radiotherapy. , 2015, 2015, 53-59.		12
57	Spatial Angular Compounding of<?Pub _newline ?>Photoacoustic Images. IEEE Transactions on Medical Imaging, 2016, 35, 1845-1855.	8.9	12
58	Photoacoustic based visual servoing of needle tips to improve biopsy on obese patients. , 2017, , .		12
59	A deep learning-based approach to identify in vivo catheter tips during photoacoustic-guided cardiac interventions. , 2019, , .		12
60	Feasibility of photoacoustic image guidance for telerobotic endonasal transsphenoidal surgery. , 2016, , .		11
61	A novel drill design for photoacoustic guided surgeries. , 2018, , .		11
62	Dual-wavelength photoacoustic imaging for guidance of hysterectomy procedures. , 2020, , .		11
63	Deep Neural Networks to Remove Photoacoustic Reflection Artifacts in Ex Vivo and in Vivo Tissue. , 2018, , .		10
64	Theoretical Framework to Predict Generalized Contrast-to-Noise Ratios of Photoacoustic Images With Applications to Computer Vision. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 2098-2114.	3.0	10
65	Improving the safety of telerobotic drilling of the skull base via photoacoustic sensing of the carotid arteries. , 2017, , .		9
66	Clinical Feasibility of Coherence-Based Beamforming to Distinguish Solid from Fluid Hypoechoic Breast Masses. , 2018, , .		9
67	Deep Learning in Medical Ultrasoundâ€"From Image Formation to Image Analysis. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2020, 67, 2477-2480.	3.0	9
68	Acoustic Frequency-Based Approach for Identification of Photoacoustic Surgical Biomarkers. Frontiers in Photonics, 2021, 2, .	2.4	9
69	Coherence-based photoacoustic imaging of brachytherapy seeds implanted in a canine prostate. Proceedings of SPIE, 2014, , .	0.8	8
70	One-Step Deep Learning Approach to Ultrasound Image Formation and Image Segmentation with a Fully Convolutional Neural Network. , 2019, , .		8
71	Spatial Coherence Beamforming With Multi-Line Transmission to Enhance the Contrast of Coherent Structures in Ultrasound Images Degraded by Acoustic Clutter. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 3570-3582.	3.0	8
72	Techniques to distinguish the ureter from the uterine artery in photoacoustic-guided hysterectomies. , 2019, , .		8

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73	Photoacoustic image guidance and robotic visual servoing to mitigate fluoroscopy during cardiac catheter interventions. , 2020, , .		8
74	The Feasibility of Haar Feature-Based Endoscopic Ultrasound Probe Tracking for Implanting Hydrogel Spacer in Radiation Therapy for Pancreatic Cancer. Frontiers in Oncology, 2021, 11, 759811.	2.8	8
75	Feasibility of transcranial photoacoustic imaging for interventional guidance of endonasal surgeries. Proceedings of SPIE, 2014, , .	0.8	7
76	Segmenting Bone Structures in Ultrasound Images with Locally Weighted SLSC (LW-SLSC)Beamforming. , 2018, , .		7
77	Deep Learning-Based Photoacoustic Visual Servoing: Using Outputs from Raw Sensor Data as Inputs to a Robot Controller. , 2021, , .		7
78	Multi-task learning for ultrasound image formation and segmentation directly from raw in vivo data. , 2020, , .		7
79	Coherence-based beamforming improves the diagnostic certainty of breast ultrasound exams. , 2020, , .		7
80	Improved visualization of endocardial borders with Short-Lag Spatial Coherence imaging of fundamental and harmonic ultrasound data. , 2012, , .		6
81	CohereNet: A deep learning approach to coherence-based beamforming. , 2019, , .		6
82	Translational Photoacoustic Imaging for Disease Diagnosis, Monitoring, and Surgical Guidance: introduction to the feature issue. Biomedical Optics Express, 2021, 12, 4115.	2.9	6
83	Force-controlled ultrasound robot for consistent tissue pre-loading: Implications for acoustic radiation force elasticity imaging. , 2014, , .		5
84	Quantifying bone thickness, light transmission, and contrast interrelationships in transcranial photoacoustic imaging. Proceedings of SPIE, 2015, , .	0.8	5
85	Experimental assessment of energy requirements and tool tip visibility for photoacoustic-guided endonasal surgery. , 2016, , .		5
86	GPU implementation of coherence-based photoacoustic beamforming for autonomous visual servoing. , 2019, , .		5
87	Deep learning the sound of light to guide surgeries. , 2019, , .		5
88	Coherent flow imaging: A power Doppler imaging technique based on backscatter spatial coherence. , 2013, , .		4
89	Accuracy of a novel photoacoustic-based approach to surgical guidance performed with and without a da Vinci robot. , 2017, , .		4
90	RECONSTRUCTION-FREE DEEP CONVOLUTIONAL NEURAL NETWORKS FOR PARTIALLY OBSERVED IMAGES. , 2018, , .		4

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91	Deep learning to detect catheter tips in vivo during photoacoustic-guided catheter interventions : Invited Presentation. , 2019, , .		4
92	Spectral Gap Extrapolation and Radio Frequency Interference Suppression Using 1D UNets. , 2021, , .		4
93	A GPU approach to real-time coherence-based photoacoustic imaging and its application to photoacoustic visual servoing. , 2020, , .		4
94	Exploring the effects of transducer models when training convolutional neural networks to eliminate reflection artifacts in experimental photoacoustic images. , 2018, , .		4
95	Visualization of custom drill bit tips in a human vertebra for photoacoustic-guided spinal fusion surgeries. , 2019, , .		4
96	Simultaneous visualization of nerves and blood vessels with multispectral photoacoustic imaging for intraoperative guidance of neurosurgeries. , 2019, , .		4
97	Acoustic frequency-based differentiation of photoacoustic signals from surgical biomarkers. , 2020, , .		4
98	Comparative resolution and tracking performance in B-mode and short-lag spatial coherence (SLSC) images. , 2011, , .		3
99	Generalized contrast-to-noise ratio as a metric of photoacoustic image quality. , 2021, , .		3
100	MO-FG-CAMPUS-JeP3-04: Feasibility Study of Real-Time Ultrasound Monitoring for Abdominal Stereotactic Body Radiation Therapy. Medical Physics, 2016, 43, 3727-3727.	3.0	3
101	Theoretical predictions of the generalized contrast-to-noise ratio for photoacoustic images. , 2020, , .		3
102	Improving the Detectability of Highly Coherent Targets in Short-Lag Spatial Coherence Images with Multi-Line Transmission. , 2020, , .		3
103	Photoacoustic imaging of prostate brachytherapy seeds with transurethral light delivery. Proceedings of SPIE, 2014, , .	0.8	2
104	Comparison of compressional and elastic wave simulations for patient-specific planning prior to transcranial photoacoustic-guided neurosurgery. Journal of Biomedical Optics, 2021, 26, .	2.6	2
105	In vivo demonstration of photoacoustic-guided liver surgery. , 2019, , .		2
106	Development and validation of a short-lag spatial coherence theory for photoacoustic imaging. , 2018, , .		2
107	Technical note: feasibility of photoacoustic guided hysterectomies with the da Vinci robot. , 2018, , .		2
108	A beamformer-independent method to predict photoacoustic visual servoing system failure from a single image frame. , 2021, , .		2

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109	Photoacoustic Vision for Surgical Guidance. , 2020, , .		2
110	Design and optimization of simulated light delivery systems for photoacoustic assessment of peripheral nerve injury. , 2022, , .		2
111	In vivo reproducibility of robotic probe placement for an integrated US-CT image-guided radiation therapy system. , 2014, , .		1
112	Notice of Removal: Photoacoustic visual servoing of needle tips to improve biopsy on obese patients. , 2017, , .		1
113	Validation of eyelids as acoustic receiver locations for photoacoustic-guided neurosurgery. , 2021, , .		1
114	Parking sensor-inspired approach to photoacoustic-guided hysterectomy demonstrated with human cadavers. , 2021, , .		1
115	A method to estimate the spatial coherence of photoacoustic channel data without access to channel data. , 2021, , .		1
116	Quantifying the impact of breast density on the lag-one coherence of hypoechoic masses. , 2021, , .		1
117	Investigation of acoustic windows for photoacoustic imaging of intracranial blood vessels. , 2020, , .		1
118	Optimization of a dual wavelength atlas technique to differentiate methylene blue from hemoglobin in photoacoustic signals. , 2022, , .		1
119	In vivo photoacoustic imaging of prostate brachytherapy seeds. Proceedings of SPIE, 2014, , .	0.8	0
120	Freehand spatial-angular compounding of photoacoustic images. , 2014, , .		0
121	Optimizing light delivery for a photoacoustic surgical system. , 2017, , .		0
122	Feasibility of a photoacoustic image guided telerobotic system for skull base surgery. , 2017, , .		0
123	Theoretical application of short-lag spatial coherence to photoacoustic imaging. , 2017, , .		0
124	Notice of Removal: Identification and removal of reflection artifacts in photoacoustic images using convolutional neural networks. , 2017, , .		0
125	Investigating the effects of compressional and elastic photoacoustic waves to predict transcranial photoacoustic image quality for guidance of minimally invasive neurosurgeries. , 2021, , .		0
126	Photoacoustic vision for surgical guidance. , 2021, , .		0

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127	Listening to the Sound of Light to Guide Surgeries. , 2020, , .		0
128	Extending CohereNet to Retain Physical Features when Classifying Benign or Malignant Breast Masses. , 2021, , .		0
129	Laser Safety for Photoacoustic-Guided Surgery. , 2022, , .		0