Yair Rivenson

List of Publications by Year
in descending order

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Version: 2024-02-01

57 papers	6,305 citations	117571 34 h-index	223716 46 g-index
58 all docs	58 docs citations	58 times ranked	4689 citing authors

#	Article	IF	Citations
1	Automatic segmentation of peripheral arteries and veins in ferumoxytolâ€enhanced MR angiography. Magnetic Resonance in Medicine, 2022, 87, 984-998.	1.9	4
2	Computational imaging without a computer: seeing through random diffusers at the speed of light. ELight, 2022, 2, .	11.9	83
3	Classification and reconstruction of spatially overlapping phase images using diffractive optical networks. Scientific Reports, 2022, 12, 8446.	1.6	8
4	Scale-, Shift-, and Rotation-Invariant Diffractive Optical Networks. ACS Photonics, 2021, 8, 324-334.	3.2	51
5	Single-Pixel Machine Vision Using Spectral Encoding Through Diffractive Optical Networks. , 2021, , .		0
6	Terahertz pulse shaping using diffractive surfaces. Nature Communications, 2021, 12, 37.	5.8	107
7	Misalignment Tolerant Diffractive Optical Networks. , 2021, , .		2
8	Neural Network-Based On-Chip Spectroscopy Using a Scalable Plasmonic Encoder. ACS Nano, 2021, 15, 6305-6315.	7.3	34
9	Recurrent neural network-based volumetric fluorescence microscopy. Light: Science and Applications, 2021, 10, 62.	7.7	27
10	Spectrally encoded single-pixel machine vision using diffractive networks. Science Advances, 2021, 7, .	4.7	96
11	Holographic Image Reconstruction with Phase Recovery and Autofocusing Using Recurrent Neural Networks. ACS Photonics, 2021, 8, 1763-1774.	3.2	30
12	Deep-Learning-Based Virtual Refocusing of Images Using an Engineered Point-Spread Function. ACS Photonics, 2021, 8, 2174-2182.	3.2	15
13	Neural network-based image reconstruction in swept-source optical coherence tomography using undersampled spectral data. Light: Science and Applications, 2021, 10, 155.	7.7	18
14	Deep learning-based transformation of H&E stained tissues into special stains. Nature Communications, 2021, 12, 4884.	5.8	100
15	All-optical synthesis of an arbitrary linear transformation using diffractive surfaces. Light: Science and Applications, 2021, 10, 196.	7.7	52
16	Single-Shot Autofocusing of Microscopy Images Using Deep Learning. ACS Photonics, 2021, 8, 625-638.	3.2	48
17	Ensemble learning of diffractive optical networks. Light: Science and Applications, 2021, 10, 14.	7.7	75
18	All-optical information-processing capacity of diffractive surfaces. Light: Science and Applications, 2021, 10, 25.	7.7	85

#	Article	IF	Citations
19	Terahertz Pulse Shaping Using Diffractive Optical Networks. , 2021, , .		3
20	Neural network-based single-shot autofocusing of microscopy images. , 2021, , .		0
21	Ensemble Learning of Diffractive Optical Neural Networks. , 2021, , .		0
22	Biopsy-free in vivo virtual histology of skin using deep learning. Light: Science and Applications, 2021, 10, 233.	7.7	36
23	Design of Shift-, Scale- and Rotation Invariant Diffractive Optical Networks. , 2021, , .		1
24	Information Processing Capacity of Diffractive Optical Processors. , 2021, , .		0
25	Analysis of Diffractive Optical Neural Networks and Their Integration With Electronic Neural Networks. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-14.	1.9	120
26	Pathological crystal imaging with singleâ€shot computational polarized light microscopy. Journal of Biophotonics, 2020, 13, e201960036.	1.1	23
27	Deep Learning-Based Holographic Polarization Microscopy. ACS Photonics, 2020, 7, 3023-3034.	3.2	41
28	Digital synthesis of histological stains using micro-structured and multiplexed virtual staining of label-free tissue. Light: Science and Applications, 2020, 9, 78.	7.7	79
29	Automated screening of sickle cells using a smartphone-based microscope and deep learning. Npj Digital Medicine, 2020, 3, 76.	5.7	57
30	Early detection and classification of live bacteria using time-lapse coherent imaging and deep learning. Light: Science and Applications, 2020, 9, 118.	7.7	93
31	Integration of Diffractive Optical Neural Networks with Electronic Neural Networks. , 2020, , .		3
32	Misalignment resilient diffractive optical networks. Nanophotonics, 2020, 9, 4207-4219.	2.9	75
33	Emerging Advances to Transform Histopathology Using Virtual Staining. BME Frontiers, 2020, 2020, .	2.2	52
34	Deep Learning-based Virtual Refocusing of Fluorescence Microscopy Images for Neuron Imaging in 3D. , 2020, , .		0
35	Deep Learning to Refocus 3D Images. Optics and Photonics News, 2020, 31, 57.	0.4	1
36	Improving the Inference Accuracy of Diffractive Optical Neural Networks Using Class-specific Differential Detection. , 2020, , .		1

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37	Deep-Z: 3D Virtual Refocusing of Fluorescence Images Using Deep Learning. , 2020, , .		1
38	Generative Adversarial Networks Enable Cross-Modality Super-Resolution in Fluorescence Microscopy. Microscopy and Microanalysis, 2019, 25, 1228-1229.	0.2	0
39	Resolution enhancement in scanning electron microscopy using deep learning. Scientific Reports, 2019, 9, 12050.	1.6	78
40	Deep learningâ€based color holographic microscopy. Journal of Biophotonics, 2019, 12, e201900107.	1.1	36
41	Three-dimensional virtual refocusing of fluorescence microscopy images using deep learning. Nature Methods, 2019, 16, 1323-1331.	9.0	172
42	Deep learning in holography and coherent imaging. Light: Science and Applications, 2019, 8, 85.	7.7	174
43	Bright-field holography: cross-modality deep learning enables snapshot 3D imaging with bright-field contrast using a single hologram. Light: Science and Applications, 2019, 8, 25.	7.7	98
44	Virtual histological staining of unlabelled tissue-autofluorescence images via deep learning. Nature Biomedical Engineering, 2019, 3, 466-477.	11.6	397
45	Deep learning-based super-resolution in coherent imaging systems. Scientific Reports, 2019, 9, 3926.	1.6	82
46	PhaseStain: the digital staining of label-free quantitative phase microscopy images using deep learning. Light: Science and Applications, 2019, 8, 23.	7.7	241
47	Design of task-specific optical systems using broadband diffractive neural networks. Light: Science and Applications, 2019, 8, 112.	7.7	150
48	Deep learning enables cross-modality super-resolution in fluorescence microscopy. Nature Methods, 2019, 16, 103-110.	9.0	545
49	Accurate color imaging of pathology slides using holography and absorbance spectrum estimation of histochemical stains. Journal of Biophotonics, 2019, 12, e201800335.	1.1	9
50	Class-specific differential detection in diffractive optical neural networks improves inference accuracy. Advanced Photonics, 2019, 1, 1.	6.2	79
51	Phase recovery and holographic image reconstruction using deep learning in neural networks. Light: Science and Applications, 2018, 7, 17141-17141.	7.7	662
52	Deep Learning Enhanced Mobile-Phone Microscopy. ACS Photonics, 2018, 5, 2354-2364.	3.2	142
53	Label-Free Bioaerosol Sensing Using Mobile Microscopy and Deep Learning. ACS Photonics, 2018, 5, 4617-4627.	3.2	59
54	A deep learning-enabled portable imaging flow cytometer for cost-effective, high-throughput, and label-free analysis of natural water samples. Light: Science and Applications, 2018, 7, 66.	7.7	131

#	Article	IF	Citations
55	Extended depth-of-field in holographic imaging using deep-learning-based autofocusing and phase recovery. Optica, 2018, 5, 704.	4.8	247
56	All-optical machine learning using diffractive deep neural networks. Science, 2018, 361, 1004-1008.	6.0	1,105
57	Deep learning microscopy. Optica, 2017, 4, 1437.	4.8	475