

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	All-optical machine learning using diffractive deep neural networks. <i>Science</i> , 2018, 361, 1004-1008.	6.0	1,105
2	Phase recovery and holographic image reconstruction using deep learning in neural networks. <i>Light: Science and Applications</i> , 2018, 7, 17141-17141.	7.7	662
3	Deep learning enables cross-modality super-resolution in fluorescence microscopy. <i>Nature Methods</i> , 2019, 16, 103-110.	9.0	545
4	Deep learning microscopy. <i>Optica</i> , 2017, 4, 1437.	4.8	475
5	Virtual histological staining of unlabelled tissue-autofluorescence images via deep learning. <i>Nature Biomedical Engineering</i> , 2019, 3, 466-477.	11.6	397
6	Extended depth-of-field in holographic imaging using deep-learning-based autofocusing and phase recovery. <i>Optica</i> , 2018, 5, 704.	4.8	247
7	PhaseStain: the digital staining of label-free quantitative phase microscopy images using deep learning. <i>Light: Science and Applications</i> , 2019, 8, 23.	7.7	241
8	Deep learning in holography and coherent imaging. <i>Light: Science and Applications</i> , 2019, 8, 85.	7.7	174
9	Three-dimensional virtual refocusing of fluorescence microscopy images using deep learning. <i>Nature Methods</i> , 2019, 16, 1323-1331.	9.0	172
10	Design of task-specific optical systems using broadband diffractive neural networks. <i>Light: Science and Applications</i> , 2019, 8, 112.	7.7	150
11	Deep Learning Enhanced Mobile-Phone Microscopy. <i>ACS Photonics</i> , 2018, 5, 2354-2364.	3.2	142
12	A deep learning-enabled portable imaging flow cytometer for cost-effective, high-throughput, and label-free analysis of natural water samples. <i>Light: Science and Applications</i> , 2018, 7, 66.	7.7	131
13	Analysis of Diffractive Optical Neural Networks and Their Integration With Electronic Neural Networks. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-14.	1.9	120
14	Terahertz pulse shaping using diffractive surfaces. <i>Nature Communications</i> , 2021, 12, 37.	5.8	107
15	Deep learning-based transformation of H&E stained tissues into special stains. <i>Nature Communications</i> , 2021, 12, 4884.	5.8	100
16	Bright-field holography: cross-modality deep learning enables snapshot 3D imaging with bright-field contrast using a single hologram. <i>Light: Science and Applications</i> , 2019, 8, 25.	7.7	98
17	Spectrally encoded single-pixel machine vision using diffractive networks. <i>Science Advances</i> , 2021, 7, .	4.7	96
18	Early detection and classification of live bacteria using time-lapse coherent imaging and deep learning. <i>Light: Science and Applications</i> , 2020, 9, 118.	7.7	93

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19	All-optical information-processing capacity of diffractive surfaces. <i>Light: Science and Applications</i> , 2021, 10, 25.	7.7	85
20	Computational imaging without a computer: seeing through random diffusers at the speed of light. <i>ELight</i> , 2022, 2, .	11.9	83
21	Deep learning-based super-resolution in coherent imaging systems. <i>Scientific Reports</i> , 2019, 9, 3926.	1.6	82
22	Digital synthesis of histological stains using micro-structured and multiplexed virtual staining of label-free tissue. <i>Light: Science and Applications</i> , 2020, 9, 78.	7.7	79
23	Class-specific differential detection in diffractive optical neural networks improves inference accuracy. <i>Advanced Photonics</i> , 2019, 1, 1.	6.2	79
24	Resolution enhancement in scanning electron microscopy using deep learning. <i>Scientific Reports</i> , 2019, 9, 12050.	1.6	78
25	Ensemble learning of diffractive optical networks. <i>Light: Science and Applications</i> , 2021, 10, 14.	7.7	75
26	Misalignment resilient diffractive optical networks. <i>Nanophotonics</i> , 2020, 9, 4207-4219.	2.9	75
27	Label-Free Bioaerosol Sensing Using Mobile Microscopy and Deep Learning. <i>ACS Photonics</i> , 2018, 5, 4617-4627.	3.2	59
28	Automated screening of sickle cells using a smartphone-based microscope and deep learning. <i>Npj Digital Medicine</i> , 2020, 3, 76.	5.7	57
29	All-optical synthesis of an arbitrary linear transformation using diffractive surfaces. <i>Light: Science and Applications</i> , 2021, 10, 196.	7.7	52
30	Emerging Advances to Transform Histopathology Using Virtual Staining. <i>BME Frontiers</i> , 2020, 2020, .	2.2	52
31	Scale-, Shift-, and Rotation-Invariant Diffractive Optical Networks. <i>ACS Photonics</i> , 2021, 8, 324-334.	3.2	51
32	Single-Shot Autofocusing of Microscopy Images Using Deep Learning. <i>ACS Photonics</i> , 2021, 8, 625-638.	3.2	48
33	Deep Learning-Based Holographic Polarization Microscopy. <i>ACS Photonics</i> , 2020, 7, 3023-3034.	3.2	41
34	Deep learning-based color holographic microscopy. <i>Journal of Biophotonics</i> , 2019, 12, e201900107.	1.1	36
35	Biopsy-free in vivo virtual histology of skin using deep learning. <i>Light: Science and Applications</i> , 2021, 10, 233.	7.7	36
36	Neural Network-Based On-Chip Spectroscopy Using a Scalable Plasmonic Encoder. <i>ACS Nano</i> , 2021, 15, 6305-6315.	7.3	34

#	ARTICLE	IF	CITATIONS
37	Holographic Image Reconstruction with Phase Recovery and Autofocusing Using Recurrent Neural Networks. ACS Photonics, 2021, 8, 1763-1774.	3.2	30
38	Recurrent neural network-based volumetric fluorescence microscopy. Light: Science and Applications, 2021, 10, 62.	7.7	27
39	Pathological crystal imaging with single-shot computational polarized light microscopy. Journal of Biophotonics, 2020, 13, e201960036.	1.1	23
40	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
41	Deep-Learning-Based Virtual Refocusing of Images Using an Engineered Point-Spread Function. ACS Photonics, 2021, 8, 2174-2182.	3.2	15
42	Accurate color imaging of pathology slides using holography and absorbance spectrum estimation of histochemical stains. Journal of Biophotonics, 2019, 12, e201800335.	1.1	9
43	Classification and reconstruction of spatially overlapping phase images using diffractive optical networks. Scientific Reports, 2022, 12, 8446.	1.6	8
44	Automatic segmentation of peripheral arteries and veins in ferumoxytol-enhanced MR angiography. Magnetic Resonance in Medicine, 2022, 87, 984-998.	1.9	4
45	Terahertz Pulse Shaping Using Diffractive Optical Networks. , 2021, , .		3
46	Integration of Diffractive Optical Neural Networks with Electronic Neural Networks. , 2020, , .		3
47	Misalignment Tolerant Diffractive Optical Networks. , 2021, , .		2
48	Deep Learning to Refocus 3D Images. Optics and Photonics News, 2020, 31, 57.	0.4	1
49	Improving the Inference Accuracy of Diffractive Optical Neural Networks Using Class-specific Differential Detection. , 2020, , .		1
50	Deep-Z: 3D Virtual Refocusing of Fluorescence Images Using Deep Learning. , 2020, , .		1
51	Design of Shift-, Scale- and Rotation Invariant Diffractive Optical Networks. , 2021, , .		1
52	Generative Adversarial Networks Enable Cross-Modality Super-Resolution in Fluorescence Microscopy. Microscopy and Microanalysis, 2019, 25, 1228-1229.	0.2	0
53	Single-Pixel Machine Vision Using Spectral Encoding Through Diffractive Optical Networks. , 2021, , .		0
54	Neural network-based single-shot autofocusing of microscopy images. , 2021, , .		0

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55	Deep Learning-based Virtual Refocusing of Fluorescence Microscopy Images for Neuron Imaging in 3D. , 2020, , .		0
56	Ensemble Learning of Diffractive Optical Neural Networks. , 2021, , .		0
57	Information Processing Capacity of Diffractive Optical Processors. , 2021, , .		0