Yair Rivenson

List of Publications by Year
in descending order

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57	6,305	117625	223800
papers	citations	34 h-index	46 g-index

58	58	58	4689
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	All-optical machine learning using diffractive deep neural networks. Science, 2018, 361, 1004-1008.	12.6	1,105
2	Phase recovery and holographic image reconstruction using deep learning in neural networks. Light: Science and Applications, 2018, 7, 17141-17141.	16.6	662
3	Deep learning enables cross-modality super-resolution in fluorescence microscopy. Nature Methods, 2019, 16, 103-110.	19.0	545
4	Deep learning microscopy. Optica, 2017, 4, 1437.	9.3	475
5	Virtual histological staining of unlabelled tissue-autofluorescence images via deep learning. Nature Biomedical Engineering, 2019, 3, 466-477.	22.5	397
6	Extended depth-of-field in holographic imaging using deep-learning-based autofocusing and phase recovery. Optica, 2018, 5, 704.	9.3	247
7	PhaseStain: the digital staining of label-free quantitative phase microscopy images using deep learning. Light: Science and Applications, 2019, 8, 23.	16.6	241
8	Deep learning in holography and coherent imaging. Light: Science and Applications, 2019, 8, 85.	16.6	174
9	Three-dimensional virtual refocusing of fluorescence microscopy images using deep learning. Nature Methods, 2019, 16, 1323-1331.	19.0	172
10	Design of task-specific optical systems using broadband diffractive neural networks. Light: Science and Applications, 2019, 8, 112.	16.6	150
11	Deep Learning Enhanced Mobile-Phone Microscopy. ACS Photonics, 2018, 5, 2354-2364.	6.6	142
12	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.	16.6	131
13	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.	2.9	120
14	Terahertz pulse shaping using diffractive surfaces. Nature Communications, 2021, 12, 37.	12.8	107
15	Deep learning-based transformation of H&E stained tissues into special stains. Nature Communications, 2021, 12, 4884.	12.8	100
16	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.	16.6	98
17	Spectrally encoded single-pixel machine vision using diffractive networks. Science Advances, 2021, 7, .	10.3	96
18	Early detection and classification of live bacteria using time-lapse coherent imaging and deep learning. Light: Science and Applications, 2020, 9, 118.	16.6	93

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19	All-optical information-processing capacity of diffractive surfaces. Light: Science and Applications, 2021, 10, 25.	16.6	85
20	Computational imaging without a computer: seeing through random diffusers at the speed of light. ELight, 2022, 2, .	23.9	83
21	Deep learning-based super-resolution in coherent imaging systems. Scientific Reports, 2019, 9, 3926.	3.3	82
22	Digital synthesis of histological stains using micro-structured and multiplexed virtual staining of label-free tissue. Light: Science and Applications, 2020, 9, 78.	16.6	79
23	Class-specific differential detection in diffractive optical neural networks improves inference accuracy. Advanced Photonics, 2019, 1, 1.	11.8	79
24	Resolution enhancement in scanning electron microscopy using deep learning. Scientific Reports, 2019, 9, 12050.	3.3	78
25	Ensemble learning of diffractive optical networks. Light: Science and Applications, 2021, 10, 14.	16.6	75
26	Misalignment resilient diffractive optical networks. Nanophotonics, 2020, 9, 4207-4219.	6.0	75
27	Label-Free Bioaerosol Sensing Using Mobile Microscopy and Deep Learning. ACS Photonics, 2018, 5, 4617-4627.	6.6	59
28	Automated screening of sickle cells using a smartphone-based microscope and deep learning. Npj Digital Medicine, 2020, 3, 76.	10.9	57
29	All-optical synthesis of an arbitrary linear transformation using diffractive surfaces. Light: Science and Applications, 2021, 10, 196.	16.6	52
30	Emerging Advances to Transform Histopathology Using Virtual Staining. BME Frontiers, 2020, 2020, .	4.5	52
31	Scale-, Shift-, and Rotation-Invariant Diffractive Optical Networks. ACS Photonics, 2021, 8, 324-334.	6.6	51
32	Single-Shot Autofocusing of Microscopy Images Using Deep Learning. ACS Photonics, 2021, 8, 625-638.	6.6	48
33	Deep Learning-Based Holographic Polarization Microscopy. ACS Photonics, 2020, 7, 3023-3034.	6.6	41
34	Deep learningâ€based color holographic microscopy. Journal of Biophotonics, 2019, 12, e201900107.	2.3	36
35	Biopsy-free in vivo virtual histology of skin using deep learning. Light: Science and Applications, 2021, 10, 233.	16.6	36
36	Neural Network-Based On-Chip Spectroscopy Using a Scalable Plasmonic Encoder. ACS Nano, 2021, 15, 6305-6315.	14.6	34

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37	Holographic Image Reconstruction with Phase Recovery and Autofocusing Using Recurrent Neural Networks. ACS Photonics, 2021, 8, 1763-1774.	6.6	30
38	Recurrent neural network-based volumetric fluorescence microscopy. Light: Science and Applications, 2021, 10, 62.	16.6	27
39	Pathological crystal imaging with singleâ€shot computational polarized light microscopy. Journal of Biophotonics, 2020, 13, e201960036.	2.3	23
40	Neural network-based image reconstruction in swept-source optical coherence tomography using undersampled spectral data. Light: Science and Applications, 2021, 10, 155.	16.6	18
41	Deep-Learning-Based Virtual Refocusing of Images Using an Engineered Point-Spread Function. ACS Photonics, 2021, 8, 2174-2182.	6.6	15
42	Accurate color imaging of pathology slides using holography and absorbance spectrum estimation of histochemical stains. Journal of Biophotonics, 2019, 12, e201800335.	2.3	9
43	Classification and reconstruction of spatially overlapping phase images using diffractive optical networks. Scientific Reports, 2022, 12, 8446.	3.3	8
44	Automatic segmentation of peripheral arteries and veins in ferumoxytolâ€enhanced MR angiography. Magnetic Resonance in Medicine, 2022, 87, 984-998.	3.0	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.	0.5	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.	0.4	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

#	Article	IF	Citations
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