Matthias Bethge

List of Publications by Year
in descending order

103 papers	**10,904** citations	201575 **27** h-index	79644 **73** g-index
155 all docs	**155** docs citations	**155** times ranked	**9352** citing authors

#	Article	IF	Citations
1	Image Style Transfer Using Convolutional Neural Networks. , 2016, , .		3,141
2	DeepLabCut: markerless pose estimation of user-defined body parts with deep learning. Nature Neuroscience, 2018, 21, 1281-1289.	7.1	2,710
3	Using DeepLabCut for 3D markerless pose estimation across species and behaviors. Nature Protocols, 2019, 14, 2152-2176.	5.5	792
4	Decorrelated Neuronal Firing in Cortical Microcircuits. Science, 2010, 327, 584-587.	6.0	562
5	State Dependence of Noise Correlations in Macaque Primary Visual Cortex. Neuron, 2014, 82, 235-248.	3.8	307
6	The Effect of Noise Correlations in Populations of Diversely Tuned Neurons. Journal of Neuroscience, 2011, 31, 14272-14283.	1.7	240
7	Inhibition decorrelates visual feature representations in the inner retina. Nature, 2017, 542, 439-444.	13.7	225
8	Understanding Low- and High-Level Contributions to Fixation Prediction. , 2017, , .		183
9	Deep convolutional models improve predictions of macaque V1 responses to natural images. PLoS Computational Biology, 2019, 15, e1006897.	1.5	179
10	Population code in mouse V1 facilitates readout of natural scenes through increased sparseness. Nature Neuroscience, 2014, 17, 851-857.	7.1	167
11	Benchmarking Spike Rate Inference in Population Calcium Imaging. Neuron, 2016, 90, 471-482.	3.8	154
12	Community-based benchmarking improves spike rate inference from two-photon calcium imaging data. PLoS Computational Biology, 2018, 14, e1006157.	1.5	118
13	Engineering a Less Artificial Intelligence. Neuron, 2019, 103, 967-979.	3.8	113
14	A Fast and Simple Population Code for Orientation in Primate V1. Journal of Neuroscience, 2012, 32, 10618-10626.	1.7	103
15	On the Structure of Neuronal Population Activity under Fluctuations in Attentional State. Journal of Neuroscience, 2016, 36, 1775-1789.	1.7	90
16	The Work Ability Index as a screening tool to identify the need for rehabilitation: Longitudinal findings from the Second German Sociomedical Panel of Employees. Journal of Rehabilitation Medicine, 2012, 44, 980-987.	0.8	70
17	Attentional fluctuations induce shared variability in macaque primary visual cortex. Nature Communications, 2018, 9, 2654.	5.8	58
18	Work status and health-related quality of life following multimodal work hardening: A cluster randomised trial. Journal of Back and Musculoskeletal Rehabilitation, 2011, 24, 161-172.	0.4	57

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19	Texture and art with deep neural networks. Current Opinion in Neurobiology, 2017, 46, 178-186.	2.0	55
20	Effects of intensified work-related multidisciplinary rehabilitation on occupational participation. International Journal of Rehabilitation Research, 2014, 37, 61-66.	0.7	48
21	Effects of graded return-to-work: a propensity-score-matched analysis. Scandinavian Journal of Work, Environment and Health, 2016, 42, 273-279.	1.7	47
22	The World Report on Disability. American Journal of Physical Medicine and Rehabilitation, 2014, 93, S4-S11.	0.7	45
23	Reading Out Olfactory Receptors: Feedforward Circuits Detect Odors in Mixtures without Demixing. Neuron, 2016, 91, 1110-1123.	3.8	42
24	Work stress and work ability: cross-sectional findings from the German sociomedical panel of employees. Disability and Rehabilitation, 2009, 31, 1692-1699.	0.9	41
25	A parametric texture model based on deep convolutional features closely matches texture appearance for humans. Journal of Vision, 2017, 17, 5.	0.1	40
26	Acceptance and barriers to access of occupational e-mental health: cross-sectional findings from a health-risk population of employees. International Archives of Occupational and Environmental Health, 2018, 91, 305-316.	1.1	39
27	Testing models of peripheral encoding using metamerism in an oddity paradigm. Journal of Vision, 2016, 16, 4.	0.1	36
28	Self-Reported Poor Work Ability—An Indicator of Need for Rehabilitation? A Cross-Sectional Study of a Sample of German Employees. American Journal of Physical Medicine and Rehabilitation, 2015, 94, 958-966.	0.7	29
29	Work Ability Index Predicts Application for Disability Pension After Work-Related Medical Rehabilitation for Chronic Back Pain. Archives of Physical Medicine and Rehabilitation, 2013, 94, 2262-2268.	0.5	28
30	Signatures of criticality arise from random subsampling in simple population models. PLoS Computational Biology, 2017, 13, e1005718.	1.5	28
31	Effectiveness of Graded Return to Work After Multimodal Rehabilitation in Patients with Mental Disorders: A Propensity Score Analysis. Journal of Occupational Rehabilitation, 2018, 28, 180-189.	1.2	28
32	Adverse effects of effort–reward imbalance on work ability: longitudinal findings from the German Sociomedical Panel of Employees. International Journal of Public Health, 2012, 57, 797-805.	1.0	27
33	Image content is more important than Bouma's Law for scene metamers. ELife, 2019, 8, .	2.8	27
34	ISPRM discussion paper: Proposing dimensions for an International Classification System for Service Organization in Health-related Rehabilitation. Journal of Rehabilitation Medicine, 2015, 47, 809-815.	0.8	26
35	Self-reported work ability predicts health-related exit and absence from work, work participation, and death: longitudinal findings from a sample of German employees. International Archives of Occupational and Environmental Health, 2021, 94, 591-599.	1.1	26
36	The reliability of WorkWell Systems Functional Capacity Evaluation: a systematic review. BMC Musculoskeletal Disorders, 2014, 15, 106.	0.8	25

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37	Faster processing of moving compared with flashed bars in awake macaque V1 provides a neural correlate of the flash lag illusion. Journal of Neurophysiology, 2018, 120, 2430-2452.	0.9	25
38	Physical and psychosocial work stressors, health-related control beliefs and work ability: cross-sectional findings from the German Sociomedical Panel of Employees. International Archives of Occupational and Environmental Health, 2010, 83, 241-250.	1.1	24
39	Effort-reward imbalance and work ability: cross-sectional and longitudinal findings from the Second German Sociomedical Panel of Employees. BMC Public Health, 2012, 12, 875.	1.2	24
40	Self-Reported Work Ability Predicts Rehabilitation Measures, Disability Pensions, Other Welfare Benefits, and Work Participation: Longitudinal Findings from a Sample of German Employees. Journal of Occupational Rehabilitation, 2018, 28, 495-503.	1.2	23
41	Effects of nationwide implementation of work-related medical rehabilitation in Germany: propensity score matched analysis. Occupational and Environmental Medicine, 2019, 76, 913-919.	1.3	23
42	Learning divisive normalization in primary visual cortex. PLoS Computational Biology, 2021, 17, e1009028.	1.5	21
43	Effects of acupuncture on quality of life and pain in patients with osteoporosis—a pilot randomized controlled trial. Archives of Osteoporosis, 2016, 11, 34.	1.0	20
44	Associations between overcommitment, effort–reward imbalance and mental health: findings from a longitudinal study. International Archives of Occupational and Environmental Health, 2019, 92, 559-567.	1.1	19
45	Multiprofessional teamwork in work-related medical rehabilitation for patients with chronic musculoskeletal disorders. Journal of Rehabilitation Medicine, 2015, 47, 58-65.	0.8	18
46	Prospective Cohort Analysis of the Predictive Validity of a Screening Instrument for Severe Restrictions of Work Ability in Patients with Musculoskeletal Disorders. American Journal of Physical Medicine and Rehabilitation, 2015, 94, 617-626.	0.7	17
47	Influence of social support among employees on mental health and work ability—a prospective cohort study in 2013–15. European Journal of Public Health, 2018, 28, 819-823.	0.1	17
48	Work-family conflicts and self-reported work ability: cross-sectional findings in women with chronic musculoskeletal disorders. BMC Musculoskeletal Disorders, 2015, 16, 58.	0.8	16
49	Effectiveness of work-related medical rehabilitation in cancer patients: study protocol of a cluster-randomized multicenter trial. BMC Cancer, 2016, 16, 544.	1.1	14
50	Predictive Validity of a Screening Instrument for the Risk of Non–Return to Work in Patients With Internal Diseases. Archives of Physical Medicine and Rehabilitation, 2017, 98, 989-996.e1.	0.5	14
51	Rehabilitation access and effectiveness for persons with back pain: the protocol of a cohort study (REHAB-BP, DRKS00011554). BMC Public Health, 2018, 18, 22.	1.2	14
52	The temporal structure of the inner retina at a single glance. Scientific Reports, 2020, 10, 4399.	1.6	14
53	Reduced Requests for Medical Rehabilitation Because of the SARS-CoV-2 Pandemic: A Difference-in-Differences Analysis. Archives of Physical Medicine and Rehabilitation, 2022, 103, 14-19.e2.	0.5	13
54	Slowness and Sparseness Have Diverging Effects on Complex Cell Learning. PLoS Computational Biology, 2014, 10, e1003468.	1.5	12

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55	Functional Capacity Evaluation in Different Societal Contexts: Results of a Multicountry Study. Journal of Occupational Rehabilitation, 2019, 29, 222-236.	1.2	12
56	Work-related rehabilitation aftercare for patients with musculoskeletal disorders. International Journal of Rehabilitation Research, 2015, 38, 226-232.	0.7	11
57	Work–related medical rehabilitation in patients with cancer–Postrehabilitation results from a cluster–randomized multicenter trial. Cancer, 2019, 125, 2666-2674.	2.0	11
58	Direct and indirect effects of organizational justice on work ability. Occupational Medicine, 2014, 64, 638-643.	0.8	10
59	Work-related medical rehabilitation in patients with musculoskeletal disorders: the protocol of a propensity score matched effectiveness study (EVA-WMR, DRKS00009780). BMC Public Health, 2016, 16, 804.	1.2	10
60	Dissemination, Analysis, and Implementation of the World Report on Disability. American Journal of Physical Medicine and Rehabilitation, 2014, 93, S68-S72.	0.7	8
61	Impact of Functional Capacity Evaluation on Patient-Reported Functional Ability: An Exploratory Diagnostic Before–After Study. Journal of Occupational Rehabilitation, 2019, 29, 711-717.	1.2	8
62	DeepGaze III: Using Deep Learning to Probe Interactions Between Scene Content and Scanpath History in Fixation Selection. , 2019, , .		8
63	Measuring work functioning in individuals with musculoskeletal disorders with reference to the International Classification of Functioning, Disability, and Health: a systematic literature review. International Journal of Rehabilitation Research, 2018, 41, 97-109.	0.7	7
64	Does social support mediate the effect of multimorbidity on mental wellbeing in the German working population? A longitudinal mediation analysis using structural equation modelling. SSM - Population Health, 2021, 13, 100744.	1.3	7
65	Self-Reported Prognosis of Employability as an Indicator of Need for Rehabilitation: A Cohort Study in People with Back Pain. Die Rehabilitation, 2022, 61, 88-96.	0.2	7
66	Synaptic unreliability facilitates information transmission in balanced cortical populations. Physical Review E, 2015, 91, 062707.	0.8	6
67	Associations between organizational injustice and work ability, self-reported disability days, and medical consultations: cross-sectional findings from employees with prior sickness absence payments. International Archives of Occupational and Environmental Health, 2017, 90, 789-797.	1.1	6
68	Prognostic accuracy of the SIMBO regarding future return-to-work problems in patients with mental and musculoskeletal disorders. Disability and Rehabilitation, 2019, 41, 1571-1577.	0.9	6
69	Work-Related Medical Rehabilitation in Cancer. Deutsches A&#x0308;rzteblatt International, 2019, 116, 592-599.	0.6	6
70	A web-based intervention to promote applications for rehabilitation: a study protocol for a randomized controlled trial. Trials, 2015, 16, 436.	0.7	5
71	Effects of rehabilitation aftercare on work participation in patients with musculoskeletal disorders: a propensity score-matched analysis. International Journal of Rehabilitation Research, 2018, 41, 74-80.	0.7	5
72	Effectiveness of medical rehabilitation in persons with back pain – lessons learned from a German cohort study. Disability and Rehabilitation, 2022, 44, 7039-7047.	0.9	5

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73	Barriers to applying for medical rehabilitation: a time-to-event analysis of employees with severe back pain in Germany. Journal of Rehabilitation Medicine, 2022, 54, jrm00274.	0.8	5
74	Work ability score as predictor of rehabilitation, disability pensions and death? A German cohort study among employees with back pain. Work, 2022, 73, 719-728.	0.6	5
75	Implementing the German Model of Work-Related Medical Rehabilitation: Did the Delivered Dose of Work-Related Treatment Components Increase?. Archives of Physical Medicine and Rehabilitation, 2018, 99, 2465-2471.	0.5	4
76	Employability and intention to apply for rehabilitation in people with back pain: A cross-sectional cohort study. Journal of Rehabilitation Medicine, 2020, 52, jrm00125.	0.8	4
77	Using Administrative Data to Assess the Risk of Permanent Work Disability: A Cohort Study. Journal of Occupational Rehabilitation, 2021, 31, 376-382.	1.2	4
78	The Prevalence and Determinants of Being Offered and Accepting Operational Management Services—A Cohort Study. International Journal of Environmental Research and Public Health, 2021, 18, 2158.	1.2	4
79	Is strain due to household and family work associated with a subjective need for rehabilitation among employees? A cross-sectional study. Zeitschrift Fur Evidenz, Fortbildung Und Qualitat Im Gesundheitswesen, 2021, 162, 32-39.	0.7	4
80	Predictive validity of a customized functional capacity evaluation in patients with musculoskeletal disorders. International Archives of Occupational and Environmental Health, 2020, 93, 635-643.	1.1	4
81	Injustice at work affects work ability and role functioning: findings of a cohort study. International Journal of Public Health, 2018, 63, 447-456.	1.0	3
82	Medizinisch-berufliche Maßnahmen. , 2016, , 149-159.		3
83	The Current Practice of Gradual Return to Work in Germany: A Qualitative Study Protocol. International Journal of Environmental Research and Public Health, 2022, 19, 3740.	1.2	3
84	The effect of noise correlations in populations of diversely tuned neurons. Nature Precedings, 2011, , .	0.1	2
85	Detecting distortions of peripherally presented letter stimuli under crowded conditions. Attention, Perception, and Psychophysics, 2017, 79, 850-862.	0.7	2
86	Work-related medical rehabilitation in patients with mental disorders: the protocol of a randomized controlled trial (WMR-P, DRKS00023175). BMC Psychiatry, 2021, 21, 225.	1.1	2
87	Towards matching peripheral appearance for arbitrary natural images using deep features. Journal of Vision, 2017, 17, 786.	0.1	2
88	Development and implementation of work-related medical rehabilitation in cancer patients using organizational ethnography and action research methodology. International Journal of Occupational Medicine and Environmental Health, 2019, 32, 217-228.	0.6	2
89	An innovative case management intervention for people at high risk of permanent work disability to improve rehabilitation coverage and coordination of health services: a randomized controlled trial (ArtiFAME, DRKS00024648). BMC Health Services Research, 2022, 22, 342.	0.9	2
90	Rehabilitation utilization of non-migrant and migrant persons with back pain: A cohort study using different definitions of migrant background. EClinicalMedicine, 2022, 46, 101351.	3.2	2

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91	Of Human Observers and Deep Neural Networks: A Detailed Psychophysical Comparison. Journal of Vision, 2017, 17, 806.	0.1	1
92	Inducing a human-like shape bias leads to emergent human-level distortion robustness in CNNs. Journal of Vision, 2019, 19, 209c.	0.1	1
93	The decline in medical rehabilitation for children and adolescents in Germany in the first year of the SARS-CoV-2 pandemic. Deutsches A&#x0308;rzteblatt International, 0, , .	0.6	1
94	Unemployment due to the SARS-CoV-2-pandemic among people with and without severe disabilities: a difference-in-differences analysis. Occupational and Environmental Medicine, 2022, 79, 494-496.	1.3	1
95	Utilization Of Cardiac Rehabilitation During the SARS-CoV-2 Pandemic In Germany: A Difference-In-differences Analysis. Journal of Cardiopulmonary Rehabilitation and Prevention, 2022, 42, 287-289.	1.2	1
96	Berufliche Teilhabe durch multimodale medizinisch-beruflich orientierte Rehabilitation. Public Health Forum, 2011, 19, 12-13.	0.1	0
97	Optimal Population Coding, Revisited. Nature Precedings, 2011, , .	0.1	0
98	An Exchange of Ideas on the World Report on Disability. American Journal of Physical Medicine and Rehabilitation, 2014, 93, S1-S3.	0.7	0
99	Effects of Graded Return-to-Work: A Propensity-Score-Matched Analysis. FOM-Edition, 2021, , 89-101.	0.1	0
100	Effectiveness of behavioural medical rehabilitation under real-life conditions in germany: a propensity-score matched analysis. Journal of Rehabilitation Medicine, 2021, , .	0.8	0
101	Behavioural evidence for the existence of a spatiotopic free-viewing saliency map. Journal of Vision, 2019, 19, 305a.	0.1	0
102	Medizinisch-berufliche MaÃŸnahmen. , 2020, , 173-183.		0
103	Reproducibility of improvements in patient-reported functional ability following functional capacity evaluation. BMC Musculoskeletal Disorders, 2022, 23, 258.	0.8	0