List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Neuronal ensemble control of prosthetic devices by a human with tetraplegia. Nature, 2006, 442, 164-171.	27.8	2,979
2	Reach and grasp by people with tetraplegia using a neurally controlled robotic arm. Nature, 2012, 485, 372-375.	27.8	2,186
3	Restoration of reaching and grasping movements through brain-controlled muscle stimulation in a person with tetraplegia: a proof-of-concept demonstration. Lancet, The, 2017, 389, 1821-1830.	13.7	632
4	Single-neuron dynamics in human focal epilepsy. Nature Neuroscience, 2011, 14, 635-641.	14.8	449
5	Neural control of cursor trajectory and click by a human with tetraplegia 1000 days after implant of an intracortical microelectrode array. Journal of Neural Engineering, 2011, 8, 025027.	3.5	429
6	High-performance brain-to-text communication via handwriting. Nature, 2021, 593, 249-254.	27.8	409
7	Inferring single-trial neural population dynamics using sequential auto-encoders. Nature Methods, 2018, 15, 805-815.	19.0	388
8	High performance communication by people with paralysis using an intracortical brain-computer interface. ELife, 2017, 6, .	6.0	367
9	Rapid fragmentation of neuronal networks at the onset of propofol-induced unconsciousness. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E3377-86.	7.1	366
10	Neural control of computer cursor velocity by decoding motor cortical spiking activity in humans with tetraplegia. Journal of Neural Engineering, 2008, 5, 455-476.	3.5	342
11	Clinical translation of a high-performance neural prosthesis. Nature Medicine, 2015, 21, 1142-1145.	30.7	269
12	Virtual typing by people with tetraplegia using a self-calibrating intracortical brain-computer interface. Science Translational Medicine, 2015, 7, 313ra179.	12.4	249
13	Early detection of consciousness in patients with acute severe traumatic brain injury. Brain, 2017, 140, 2399-2414.	7.6	244
14	Primary Motor Cortex Tuning to Intended Movement Kinematics in Humans with Tetraplegia. Journal of Neuroscience, 2008, 28, 1163-1178.	3.6	216
15	Collective dynamics in human and monkey sensorimotor cortex: predicting single neuron spikes. Nature Neuroscience, 2010, 13, 105-111.	14.8	202
16	Human seizures self-terminate across spatial scales via a critical transition. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 21116-21121.	7.1	182
17	Vagus nerve stimulation paired with rehabilitation for upper limb motor function after ischaemic stroke (VNS-REHAB): a randomised, blinded, pivotal, device trial. Lancet, The, 2021, 397, 1545-1553.	13.7	181
18	Intra-day signal instabilities affect decoding performance in an intracortical neural interface system. Journal of Neural Engineering, 2013, 10, 036004.	3.5	180

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19	Heterogeneous neuronal firing patterns during interictal epileptiform discharges in the human cortex. Brain, 2010, 133, 1668-1681.	7.6	168
20	Assistive technology and robotic control using motor cortex ensemble-based neural interface systems in humans with tetraplegia. Journal of Physiology, 2007, 579, 603-611.	2.9	166
21	Spatiotemporal dynamics of neocortical excitation and inhibition during human sleep. Proceedings of the United States of America, 2012, 109, 1731-1736.	7.1	166
22	Point-and-Click Cursor Control With an Intracortical Neural Interface System by Humans With Tetraplegia. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 193-203.	4.9	149
23	Speech-Specific Tuning of Neurons in Human Superior Temporal Gyrus. Cerebral Cortex, 2014, 24, 2679-2693.	2.9	121
24	Listening to Brain Microcircuits for Interfacing With External World—Progress in Wireless Implantable Microelectronic Neuroengineering Devices. Proceedings of the IEEE, 2010, 98, 375-388.	21.3	114
25	Large-scale neural recordings with single neuron resolution using Neuropixels probes in human cortex. Nature Neuroscience, 2022, 25, 252-263.	14.8	112
26	Sensors and Decoding for Intracortical Brain Computer Interfaces. Annual Review of Biomedical Engineering, 2013, 15, 383-405.	12.3	110
27	Cortical control of a tablet computer by people with paralysis. PLoS ONE, 2018, 13, e0204566.	2.5	108
28	Motor neuroprosthesis implanted with neurointerventional surgery improves capacity for activities of daily living tasks in severe paralysis: first in-human experience. Journal of NeuroInterventional Surgery, 2021, 13, 102-108.	3.3	106
29	Neuronal Ensemble Synchrony during Human Focal Seizures. Journal of Neuroscience, 2014, 34, 9927-9944.	3.6	103
30	Hand Knob Area of Premotor Cortex Represents the Whole Body in a Compositional Way. Cell, 2020, 181, 396-409.e26.	28.9	101
31	Sensors for brain-computer interfaces. IEEE Engineering in Medicine and Biology Magazine, 2006, 25, 32-38.	0.8	100
32	Rapid calibration of an intracortical brain–computer interface for people with tetraplegia. Journal of Neural Engineering, 2018, 15, 026007.	3.5	95
33	Reliability of directional information in unsorted spikes and local field potentials recorded in human motor cortex. Journal of Neural Engineering, 2014, 11, 046007.	3.5	92
34	Continuous neuronal ensemble control of simulated arm reaching by a human with tetraplegia. Journal of Neural Engineering, 2011, 8, 034003.	3.5	91
35	Stable long-term BCI-enabled communication in ALS and locked-in syndrome using LFP signals. Journal of Neurophysiology, 2018, 120, 343-360.	1.8	91
36	Efficient Decoding With Steady-State Kalman Filter in Neural Interface Systems. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2011, 19, 25-34.	4.9	88

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37	Neural Point-and-Click Communication by a Person With Incomplete Locked-In Syndrome. Neurorehabilitation and Neural Repair, 2015, 29, 462-471.	2.9	84
38	Advantages of closed-loop calibration in intracortical brain–computer interfaces for people with tetraplegia. Journal of Neural Engineering, 2013, 10, 046012.	3.5	83
39	Home Use of a Percutaneous Wireless Intracortical Brain-Computer Interface by Individuals With Tetraplegia. IEEE Transactions on Biomedical Engineering, 2021, 68, 2313-2325.	4.2	83
40	Review: Human Intracortical Recording and Neural Decoding for Brain–Computer Interfaces. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 1687-1696.	4.9	80
41	The Emergence of Single Neurons in Clinical Neurology. Neuron, 2015, 86, 79-91.	8.1	74
42	Corticospinal Tract Injury Estimated From Acute Stroke Imaging Predicts Upper Extremity Motor Recovery After Stroke. Stroke, 2019, 50, 3569-3577.	2.0	70
43	Power-saving design opportunities for wireless intracortical brain–computer interfaces. Nature Biomedical Engineering, 2020, 4, 984-996.	22.5	66
44	Evolving Applications, Technological Challenges and Future Opportunities in Neuromodulation: Proceedings of the Fifth Annual Deep Brain Stimulation Think Tank. Frontiers in Neuroscience, 2017, 11, 734.	2.8	65
45	Neural ensemble dynamics in dorsal motor cortex during speech in people with paralysis. ELife, 2019, 8,	6.0	64
46	Neural population dynamics in human motor cortex during movements in people with ALS. ELife, 2015, 4, e07436.	6.0	60
47	Decoding spoken English from intracortical electrode arrays in dorsal precentral gyrus. Journal of Neural Engineering, 2020, 17, 066007.	3.5	52
48	Intact Brain Network Function in an Unresponsive Patient with <scp>COVID</scp> â€19. Annals of Neurology, 2020, 88, 851-854.	5.3	47
49	The neuroethics of disorders of consciousness: a brief history of evolving ideas. Brain, 2021, 144, 3291-3310.	7.6	44
50	An assistive decision-and-control architecture for force-sensitive hand–arm systems driven by human–machine interfaces. International Journal of Robotics Research, 2015, 34, 763-780.	8.5	43
51	Personalized Connectome Mapping to Guide Targeted Therapy and Promote Recovery of Consciousness in the Intensive Care Unit. Neurocritical Care, 2020, 33, 364-375.	2.4	42
52	Microscale spatiotemporal dynamics during neocortical propagation of human focal seizures. NeuroImage, 2015, 122, 114-130.	4.2	41
53	Feedback control policies employed by people using intracortical brain–computer interfaces. Journal of Neural Engineering, 2017, 14, 016001.	3.5	41
54	Prediction of Imagined Single-Joint Movements in a Person With High-Level Tetraplegia. IEEE Transactions on Biomedical Engineering, 2012, 59, 2755-2765.	4.2	39

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55	Unexpected Recovery of Function After Severe Traumatic Brain Injury: The Limits of Early Neuroimaging-Based Outcome Prediction. Neurocritical Care, 2013, 19, 364-375.	2.4	37
56	Replay of Learned Neural Firing Sequences during Rest in Human Motor Cortex. Cell Reports, 2020, 31, 107581.	6.4	37
57	Applications of brain-computer interfaces to the control of robotic and prosthetic arms. Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn, 2020, 168, 87-99.	1.8	37
58	Feasibility of an EEG-based brain-computer interface in the intensive care unit. Clinical Neurophysiology, 2018, 129, 1519-1525.	1.5	33
59	Horizons in Prosthesis Development for the Restoration of Limb Function. Journal of the American Academy of Orthopaedic Surgeons, The, 2006, 14, S198-S204.	2.5	33
60	Non-causal spike filtering improves decoding of movement intention for intracortical BCIs. Journal of Neuroscience Methods, 2014, 236, 58-67.	2.5	28
61	BCI decoder performance comparison of an LSTM recurrent neural network and a Kalman filter in retrospective simulation. , 2019, , .		28
62	Principled BCI Decoder Design and Parameter Selection Using a Feedback Control Model. Scientific Reports, 2019, 9, 8881.	3.3	28
63	Learned Motor Patterns Are Replayed in Human Motor Cortex during Sleep. Journal of Neuroscience, 2022, 42, 5007-5020.	3.6	27
64	Signal processing methods for reducing artifacts in microelectrode brain recordings caused by functional electrical stimulation. Journal of Neural Engineering, 2018, 15, 026014.	3.5	26
65	Multi-state decoding of point-and-click control signals from motor cortical activity in a human with tetraplegia. , 2007, , .		24
66	Watch, Imagine, Attempt: Motor Cortex Single-Unit Activity Reveals Context-Dependent Movement Encoding in Humans With Tetraplegia. Frontiers in Human Neuroscience, 2018, 12, 450.	2.0	24
67	Somatosensory responses in a human motor cortex. Journal of Neurophysiology, 2013, 109, 2192-2204.	1.8	22
68	Speech-related dorsal motor cortex activity does not interfere with iBCI cursor control. Journal of Neural Engineering, 2020, 17, 016049.	3.5	21
69	Turning Thought into Action. New England Journal of Medicine, 2008, 359, 1175-1177.	27.0	20
70	Robust Closed-Loop Control of a Cursor in a Person with Tetraplegia using Gaussian Process Regression. Neural Computation, 2018, 30, 2986-3008.	2.2	20
71	Early Detection of Human Epileptic Seizures Based on Intracortical Microelectrode Array Signals. IEEE Transactions on Biomedical Engineering, 2020, 67, 817-831.	4.2	20
72	A Comparison of Intention Estimation Methods for Decoder Calibration in Intracortical Brain–Computer Interfaces. IEEE Transactions on Biomedical Engineering, 2018, 65, 2066-2078.	4.2	19

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73	Locked in, but not out?. Neurology, 2014, 82, 1852-1853.	1.1	17
74	Adaptive Offset Correction for Intracortical Brain–Computer Interfaces. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2014, 22, 239-248.	4.9	17
75	Inhibitory single neuron control of seizures and epileptic traveling waves in humans. BMC Neuroscience, 2014, 15, .	1.9	17
76	Retrospectively supervised click decoder calibration for self-calibrating point-and-click brain–computer interfaces. Journal of Physiology (Paris), 2016, 110, 382-391.	2.1	17
77	BCI Users and Their Needs. , 2012, , 317-324.		16
78	Decoding Speech from Intracortical Multielectrode Arrays in Dorsal "Arm/Hand Areas―of Human Motor Cortex. , 2018, 2018, 93-97.		16
79	Cognitive Demands Influence Upper Extremity Motor Performance During Recovery From Acute Stroke. Neurology, 2021, 96, e2576-e2586.	1.1	16
80	Neural Representation of Observed, Imagined, and Attempted Grasping Force in Motor Cortex of Individuals with Chronic Tetraplegia. Scientific Reports, 2020, 10, 1429.	3.3	16
81	Continuous Control of the DLR Light-Weight Robot III by a Human with Tetraplegia Using the BrainGate2 Neural Interface System. Springer Tracts in Advanced Robotics, 2014, , 125-136.	0.4	15
82	Closed-loop cortical control of virtual reach and posture using Cartesian and joint velocity commands. Journal of Neural Engineering, 2019, 16, 026011.	3.5	14
83	The Discriminative Kalman Filter for Bayesian Filtering with Nonlinear and Nongaussian Observation Models. Neural Computation, 2020, 32, 969-1017.	2.2	13
84	Association of Modified Rankin Scale With Recovery Phenotypes in Patients With Upper Extremity Weakness After Stroke. Neurology, 2022, 98, .	1.1	13
85	Modulation Depth Estimation and Variable Selection in State-Space Models for Neural Interfaces. IEEE Transactions on Biomedical Engineering, 2015, 62, 570-581.	4.2	12
86	Feasibility of Automatic Error Detect-and-Undo System in Human Intracortical Brain–Computer Interfaces. IEEE Transactions on Biomedical Engineering, 2018, 65, 1771-1784.	4.2	12
87	Volitional control of single-electrode high gamma local field potentials by people with paralysis. Journal of Neurophysiology, 2019, 121, 1428-1450.	1.8	12
88	Auditory cues reveal intended movement information in middle frontal gyrus neuronal ensemble activity of a person with tetraplegia. Scientific Reports, 2021, 11, 98.	3.3	12
89	Implanted Neural Interfaces: Ethics in Treatment and Research. , 2013, , 235-250.		12
90	Brain–Computer Interfaces in Neurorecovery and Neurorehabilitation. Seminars in Neurology, 2021, 41, 206-216.	1.4	11

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91	Reprint of "Non-causal spike filtering improves decoding of movement intention for intracortical BCIs― Journal of Neuroscience Methods, 2015, 244, 94-103.	2.5	10
92	Signal-independent noise in intracortical brain–computer interfaces causes movement time properties inconsistent with Fitts' law. Journal of Neural Engineering, 2017, 14, 026010.	3.5	9
93	The Neural Representation of Force across Grasp Types in Motor Cortex of Humans with Tetraplegia. ENeuro, 2021, 8, ENEURO.0231-20.2020.	1.9	9
94	Arm Motor Recovery After Ischemic Stroke: A Focus on Clinically Distinct Trajectory Groups. Journal of Neurologic Physical Therapy, 2021, 45, 70-78.	1.4	9
95	Mixing decoded cursor velocity and position from an offline Kalman filter improves cursor control in people with tetraplegia. , 2013, , .		8
96	Brain-machine interface cursor position only weakly affects monkey and human motor cortical activity in the absence of arm movements. Scientific Reports, 2018, 8, 16357.	3.3	8
97	Intracortical neural activity distal to seizure-onset-areas predicts human focal seizures. PLoS ONE, 2019, 14, e0211847.	2.5	8
98	Responsive neurostimulation for focal motor status epilepticus. Annals of Clinical and Translational Neurology, 2021, 8, 1353-1361.	3.7	8
99	Early detection of human epileptic seizures based on intracortical local field potentials. , 2013, , 323-326.		7
100	Intuitive prosthetic limb control. Lancet, The, 2007, 369, 345-346.	13.7	6
101	Early detection of human focal seizures based on cortical multiunit activity. , 2014, 2014, 5796-9.		6
102	Predicting seizures from local field potentials recorded via intracortical microelectrode arrays. , 2016, 2016, 6353-6356.		6
103	Trends in BCI Research I: Brain-Computer Interfaces for Assessment of Patients with Locked-in Syndrome or Disorders of Consciousness. Springer Briefs in Electrical and Computer Engineering, 2017, , 105-125.	0.5	6
104	Effects of Peripheral Haptic Feedback on Intracortical Brain-Computer Interface Control and Associated Sensory Responses in Motor Cortex. IEEE Transactions on Haptics, 2021, 14, 762-775.	2.7	5
105	Braingate: Turning Thought into Action—First Experience with a Human Neuromotor Prosthesis. Neurosurgery, 2005, 57, 425-425.	1.1	4
106	Initial Surgical Experience with an Intracortical Microelectrode Array for Brain-computer Interface Applications. Neurosurgery, 2006, 59, 481.	1.1	4
107	Adaptive parametric spectral estimation with Kalman smoothing for online early seizure detection. , 2013, , 1410-1413.		3

108 Intracranialbrain–computer interfaces for communication and control. , 2014, , 577-585.

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109	A useful communication in brain-computer interfaces. Neurology, 2018, 91, 109-110.	1.1	3
110	Designing a Neural Interface System to Restore Mobility. , 2009, , 229-242.		3
111	Application of system identification methods for decoding imagined single-joint movements in an individual with high tetraplegia. , 2010, 2010, 2678-81.		2
112	Towards the optimal design of an assistive communication interface with neural input. , 2012, , .		2
113	Development of a Manually Operated Communication System (MOCS) for patients in intensive care units. AAC: Augmentative and Alternative Communication, 2021, 37, 261-273.	1.4	2
114	Intracortical Brain-Computer Interfaces for the Restoration of Communication and Mobility. Biophysical Journal, 2013, 104, 376a.	0.5	1
115	194 High Performance Computer Cursor Control Using Neuronal Ensemble Recordings From the Motor Cortex of a Person With ALS. Neurosurgery, 2013, 60, 184.	1.1	1
116	Freedom of Speech. New England Journal of Medicine, 2021, 385, 278-279.	27.0	1
117	Next-generation BCIs: Brain-to-text Communication via Attempted Handwriting. , 2022, , .		1
118	West Nile Encephalitis in Massachusetts. New England Journal of Medicine, 2002, 346, 1030-1031.	27.0	0
119	Hyperacute stent placement in acute cervical internal carotid artery occlusions: the potential role of magnetic resonance imaging. Journal of NeuroInterventional Surgery, 2009, 1, 171-174.	3.3	0
120	Electrical stimulation approaches to stroke recovery. , 0, , 247-258.		0
121	Investigation of the Neural Dynamics of Human Motor Learning Using an Intracortical Brain Computer Interface. Archives of Physical Medicine and Rehabilitation, 2017, 98, e163.	0.9	Ο
122	Acute Stroke. , 2010, , 414-417.		0
123	Auditory-Reliant Intracortical Brain Computer Interfaces for Effector Control by a Person with Tetraplegia. Communications in Computer and Information Science, 2020, , 102-109.	0.5	0
124	Restoring Functional Reach-to-Grasp in a Person with Chronic Tetraplegia Using Implanted Functional Electrical Stimulation and Intracortical Brain-Computer Interfaces. Springer Briefs in Electrical and Computer Engineering, 2020, , 35-45.	0.5	0