Bertram E Shi

List of Publications by Year
in descending order

99 papers	1,871 citations	566801 15 h-index	454577 30 g-index
106 all docs	106 docs citations	106 times ranked	1766 citing authors

#	Article	IF	Citations
1	Using Eye Gaze to Enhance Generalization of Imitation Networks to Unseen Environments. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 2066-2074.	7.2	8
2	Active head rolls enhance sonar-based auditory localization performance. PLoS Computational Biology, 2021, 17, e1008973.	1.5	1
3	The development of active binocular vision under normal and alternate rearing conditions. ELife, 2021, 10, .	2.8	1
4	AVGCN: Trajectory Prediction using Graph Convolutional Networks Guided by Human Attention. , 2021, , .		15
5	A Multimodal Direct Gaze Interface for Wheelchairs and Teleoperated Robots. , 2021, 2021, 4796-4800.		1
6	Offset Calibration for Appearance-Based Gaze Estimation via Gaze Decomposition. , 2020, , .		11
7	Dynamic Bayesian Adjustment of Dwell Time for Faster Eye Typing. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2020, 28, 2315-2324.	2.7	4
8	Retinal Slip Estimation and Object Tracking with an Active Event Camera. , 2020, , .		2
9	The Mechanism of Relaxation by Viewing a Japanese Garden: A Pilot Study. Herd, 2020, 13, 31-43.	0.9	5
10	Active efficient coding explains the development of binocular vision and its failure in amblyopia. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6156-6162.	3.3	21
11	Robot Navigation in Crowds by Graph Convolutional Networks With Attention Learned From Human Gaze. IEEE Robotics and Automation Letters, 2020, 5, 2754-2761.	3.3	79
12	An Event-by-Event Approach for Velocity Estimation and Object Tracking With an Active Event Camera. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2020, 10, 557-566.	2.7	1
13	Self-Calibrating Active Binocular Vision via Active Efficient Coding with Deep Autoencoders. , 2020, , .		4
14	Integration of Vergence, Cyclovergence, and Saccades through Active Efficient Coding. , 2020, , .		2
15	Autonomous Development of Active Binocular and Motion Vision Through Active Efficient Coding. Frontiers in Neurorobotics, 2019, 13, 49.	1.6	9
16	Appearance-Based Gaze Estimation Using Dilated-Convolutions. Lecture Notes in Computer Science, 2019, , 309-324.	1.0	38
17	A gaze model improves autonomous driving. , 2019, , .		16
18	Task-embedded online eye-tracker calibration for improving robustness to head motion. , 2019, , .		7

#	Article	IF	Citations
19	Unsupervised Outlier Detection in Appearance-Based Gaze Estimation. , 2019, , .		8
20	Using Variable Dwell Time to Accelerate Gaze-Based Web Browsing with Two-Step Selection. International Journal of Human-Computer Interaction, 2019, 35, 240-255.	3.3	17
21	Developing and Assessing MATLAB Exercises for Active Concept Learning. IEEE Transactions on Education, 2019, 62, 2-10.	2.0	27
22	Autonomous learning of cyclovergence control based on Active Efficient Coding. , 2018, , .		4
23	Robot End Effector Tracking Using Predictive Multisensory Integration. Frontiers in Neurorobotics, 2018, 12, 66.	1.6	4
24	SLAM-based localization of 3D gaze using a mobile eye tracker. , 2018, , .		26
25	Learning Hierarchical Integration of Foveal and Peripheral Vision for Vergence Control by Active Efficient Coding. Lecture Notes in Computer Science, 2018, , 78-89.	1.0	1
26	An Active Efficient Coding Model of Binocular Vision Development Under Normal and Abnormal Rearing Conditions. Lecture Notes in Computer Science, 2018, , 66-77.	1.0	0
27	Learning multisensory cue integration on mobile robots. , 2017, , .		1
28	The Power of Traditional Design Techniques: The Effects of Viewing a Japanese Garden on Individuals With Cognitive Impairment. Herd, 2017, 10, 74-86.	0.9	29
29	Probabilistic adjustment of dwell time for eye typing. , 2017, , .		16
30	Learning multisensory neural controllers for robot arm tracking. , 2017, , .		2
31	Action unit selective feature maps in deep networks for facial expression recognition. , 2017, , .		22
32	Pose-Independent Facial Action Unit Intensity Regression Based on Multi-Task Deep Transfer Learning. , 2017, , .		28
33	HOTS: A Hierarchy of Event-Based Time-Surfaces for Pattern Recognition. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2017, 39, 1346-1359.	9.7	284
34	Lattice Long Short-Term Memory for Human Action Recognition. , 2017, , .		111
35	Photorealistic facial expression synthesis by the conditional difference adversarial autoencoder. , 2017, , .		41
36	Learning of active binocular vision in a biomechanical model of the oculomotor system. , 2017, , .		4

#	ARTICLE	IF	CITATIONS
37	Autonomous, self-calibrating binocular vision based on learned attention and active efficient coding. , 2017, , .		6
38	Joint Learning of Binocularly Driven Saccades and Vergence by Active Efficient Coding. Frontiers in Neurorobotics, 2017, 11, 58.	1.6	9
39	An active-efficient-coding model of optokinetic nystagmus. Journal of Vision, 2016, 16, 10.	0.1	8
40	Simultaneous learning of the structure and kinematic model of an articulated body from point clouds. , 2016, , .		4
41	A two layer disparity selective simple cell model. , 2016, , .		0
42	Invariant feature extraction from event based stimuli. , 2016, , .		6
43	Learning Visuomotor Transformations and End Effector Appearance by Local Visual Consistency. IEEE Transactions on Cognitive and Developmental Systems, 2016, 8, 60-69.	2.6	7
44	The role of contrast sensitivity in the development of binocular vision: A computational study. , 2015, , .		2
45	Active maintenance of binocular correspondence leads to orientation alignment of visual receptive fields. , 2015, , .		1
46	Self-calibrating smooth pursuit through active efficient coding. Robotics and Autonomous Systems, 2015, 71, 3-12.	3.0	27
47	Learning Slowness in a Sparse Model of Invariant Feature Detection. Neural Computation, 2015, 27, 1496-1529.	1.3	6
48	On the utility of sparse neural representations in adaptive behaving agents. , 2015, , .		3
49	A Two-stage model for inference of target identity during 2D cursor control from natural gaze trajectories. , 2015, 2015, 474-7.		0
50	Human Action Recognition Using Factorized Spatio-Temporal Convolutional Networks. , 2015, , .		373
51	Hybrid gaze/EEG brain computer interface for robot arm control on a pick and place task. , 2015, 2015, 1476-9.		26
52	Laplacian Auto-Encoders: An explicit learning of nonlinear data manifold. Neurocomputing, 2015, 160, 250-260.	3.5	60
53	Hybrid Brain Computer Interface via Bayesian integration of EEG and eye gaze. , 2015, , .		12
54	The generative Adaptive Subspace Self-Organizing Map. , 2014, , .		8

#	ARTICLE	IF	CITATIONS
55	Inferring targets from gaze. , 2014, , .		2
56	Intrinsically motivated learning of visual motion perception and smooth pursuit. , 2014, , .		15
57	Neural population models for perception of motion in depth. Vision Research, 2014, 101, 11-31.	0.7	9
58	Integrating EEG information improves performance of gaze based cursor control. , 2013, , .		6
59	Autonomous learning of active multi-scale binocular vision. , 2013, , .		18
60	Combining texture and stereo disparity cues for real-time face detection. Signal Processing: Image Communication, 2013, 28, 1100-1113.	1.8	7
61	APPLICATION OF CNN TO BRAINLIKE COMPUTING. , 2013, , 190-201.		0
62	Robust active binocular vision through intrinsically motivated learning. Frontiers in Neurorobotics, 2013, 7, 20.	1.6	37
63	Active Vision During Coordinated Head/Eye Movements in a Humanoid Robot. IEEE Transactions on Robotics, 2012, 28, 1423-1430.	7.3	15
64	Development of robot self-identification based on visuomotor prediction. , 2012, , .		2
65	A unified model of the joint development of disparity selectivity and vergence control. , 2012, , .		41
66	The role of orientation diversity in binocular vergence control. , 2011, , .		6
67	Joint development of disparity tuning and vergence control. , 2011, , .		7
68	Improved Binocular Vergence Control via a Neural Network That Maximizes an Internally Defined Reward. IEEE Transactions on Autonomous Mental Development, 2011, 3, 247-256.	2.3	16
69	Self-Organizing Neural Population Coding for improving robotic visuomotor coordination. , 2011, , .		2
70	The changing disparity energy model. Vision Research, 2010, 50, 181-192.	0.7	22
71	GPU implementation of fast Gabor filters. , 2010, , .		32
72	Autonomous Development of Vergence Control Driven by Disparity Energy Neuron Populations. Neural Computation, 2010, 22, 730-751.	1.3	14

#	Article	IF	Citations
73	Maximizing neural responses leads to sensori-motor coordination of binocular vergence. , 2009, , .		0
74	Normalized phase shift motion energy neuron populations for image velocity estimation. , 2009, , .		0
75	THE HKUST MULTIMAP SYSTEM FOR ACTIVE VISION. International Journal of Humanoid Robotics, 2009, 06, 505-536.	0.6	3
76	Integrating contrast invariance into a model for cortical orientation map formation. Neurocomputing, 2009, 72, 1887-1899.	3.5	2
77	The effect of mismatch in current•<i>versus</i> voltage€mode resistive grids. International Journal of Circuit Theory and Applications, 2009, 37, 53-65.	1.3	9
78	The memristive grid outperforms the resistive grid for edge preserving smoothing. , 2009, , .		11
79	Hebbian learning of visually directed reaching by a robot arm. , 2009, , .		1
80	Disparity Estimation by Pooling Evidence From Energy Neurons. IEEE Transactions on Neural Networks, 2009, 20, 1772-1782.	4.8	4
81	Robotic gaze and vergence control via disparity energy neurons. , 2008, , .		1
82	Normalization Enables Robust Validation of Disparity Estimates from Neural Populations. Neural Computation, 2008, 20, 2464-2490.	1.3	9
83	Neuromorphic implementation of active gaze and vergence control. , 2008, , .		10
84	A V2 neuron-based model for salient point detection. , 2008, , .		0
85	Improved illumination invariance using a color edge representation based on Double Opponent neurons. , 2008, , .		2
86	Adaptive Gain Control for Spike-Based Map Communication in a Neuromorphic Vision System. IEEE Transactions on Neural Networks, 2008, 19, 1010-1021.	4.8	3
87	A Two Stage Energy Model Exhibiting Selectivity to Changing Disparity. Lecture Notes in Computer Science, 2008, , 47-54.	1.0	1
88	Probabilistic Modelling of Phase-tuned Disparity Energy Neuron Populations. , 2007, , .		0
89	Sensor Integration in Autonomous Systems. , 2007, , .		1
90	Active Visual Tracking of Heading Direction By Combining Motion Energy Neurons. , 2007, , .		0

#	Article	IF	Citations
91	Recursive Anisotropic 2-D Gaussian Filtering Based on a Triple-Axis Decomposition. IEEE Transactions on Image Processing, 2007, 16, 1925-1930.	6.0	23
92	Expandable Networks for Neuromorphic Chips. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 301-311.	0.1	83
93	Estimating the CNN Steady State using Forward-Backward Recursions. , 2006, , .		3
94	An eight layer cellular neural network for spatio-temporal image filtering. International Journal of Circuit Theory and Applications, 2006, 34, 141-164.	1.3	12
95	Computing and Combining the Outputs of Cortically Inspired Feature Maps. , 2006, , .		0
96	ORIENTED SPATIAL PATTERN FORMATION IN A FOUR LAYER CMOS CELLULAR NEURAL NETWORK. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2004, 14, 1209-1221.	0.7	4
97	A Preference for Phase-Based Disparity in a Neuromorphic Implementation of the Binocular Energy Model. Neural Computation, 2004, 16, 1579-1600.	1.3	10
98	Feature vs. Model Based Vocal Tract Length Normalization for a Speech Recognition-Based Interactive Toy. Lecture Notes in Computer Science, 2001, , 134-143.	1.0	2
99	Focal Plane Implementation of 2D Steerable and Scalable Gabor-Type Filters. Journal of Signal Processing Systems, 1999, 23, 319-334.	1.0	11