## **Georg Martius**

List of Publications by Year in descending order

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1 Asoft thumb-sized vision-based sensor with accurate all-round force perception. Nature Machine 8.3 70   2 Information Driven SelF-Organization of Complex Robotic Behaviors. PLoS ONE, 2013, 8, e63400. 1.1 66   3 Deep Reinforcement Learning for Event Triggered Control., 2018, 43   4 Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2018, 1.5 35   5 The Playful Machine. Cognitive Systems Monographs, 2012, 0.1 27   6 Rocking Stamper and lumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive 1.1 27   7 Variants of guided self organization for robot control. Theory in Biosciences, 2012, 113, 129-137. 0.6 22   8 Novel plasticity rule can explain the development of sanaorimotor intelligence. Proceedings of the 8.3 20   9 Phaylocal classical density functionals from an equation learning network. Journal of Chemical 1.2 22   10 Guided Self-organisation for Autonomous Robot Development., 2007, 766-775. 19 11   11 Guiden the design of superesolution tactife skins with taxel value isolines theory. Science Robotics, 0.9 1.6   12 Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm	#	Article	IF	CITATIONS
2Information Driven Self-Organization of Complex Robotic Behaviors. PLoS ONE, 2013, 8, e63400.1.16-63Deep Reinforcement Learning for Event-Triggered Control., 2018,434Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2018, 1.51.55The Playful Machine. Cognitive Systems Monographs, 2012,0.1206Rocking Stamper and Jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive1.1277Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.0.6228Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the National Accidemy of Sciences of the United States of America, 2015, 112, E6224 E6232.3.32210Cuided Self-organization for robots Emergent behavior of a tendon driven anthropomorphic arm., 2015,1.22211Quiding the design of superresolution tactile skins with taxel value isolnes theory. Science Robotics, 2015,9.91.612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2015,1.21013Machine Learning Approach to View Planning for Automated Inspection Tasks. Sensors. 2021, 11, 1.21.21014Asensor Rased Learning Approach to View Planning for Automated Inspection Tasks. Sensors. 2021, 12, 1.1.21015Areinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors. 2021, 11, 1.1.6816Self-Organized Behavior Generatio	1	A soft thumb-sized vision-based sensor with accurate all-round force perception. Nature Machine Intelligence, 2022, 4, 135-145.	8.3	70
3 Deep Reinforcement Learning for Event-Triggered Control, 2018, 4   4 Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2018, 1.5 35   6 The Playful Machine. Cognitive Systems Monographs, 2012, 0.1 29   6 Rocking Stamper and jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive Behavior, 2006, 14, 105-115. 1.0 27   7 Variants of guided self-organization for robot control. Theory in Blosciences, 2012, 131, 129-137. 0.6 22   8 Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the New Systems Monographs, 2012, 12, E6224-E6322. 3.9 22   10 Guided Self-organization for Autonomous Robot Development, 2007, 766-775. 19 11   11 Guiding the design of superresolution tactifie skins with taxel value Isolines theory. Science Robotics, 9.9 16   12 Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 16 11   13 Machine Learning Approach to View Planning for Autonaboutes, 2019, 13, 51. 12 10   14 Assensor-Based Learning Algorithm for the Self-Organization of Robot Behavior, Algorithms, 2009, 2, 12 12 10   15 Areinforcement Learning Approach to View Plann	2	Information Driven Self-Organization of Complex Robotic Behaviors. PLoS ONE, 2013, 8, e63400.	1.1	66
4Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2013,1.5355The Playful Machine. Cognitive Systems Monographs, 2012,0.1206Rocking Stamper and Jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive1.1277Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.0.6228Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5224-E5232.3.3229Analytical classical density functionals from an equation learning network. Journal of Chemical1.22210Cuided Self-organisation for Autonomous Robot Development., 2007, 766-775.1911Cuiding the design of superresolution tactife skins with taxel value isolines theory. Science Robotics, 2022, 7, abm0608.9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 396-409.1.21214Asensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 	3	Deep Reinforcement Learning for Event-Triggered Control. , 2018, , .		43
3The Playful Machine. Cognitive Systems Monographs, 2012,0.1296Bocking Stamper and Jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive1.1277Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.0.6228Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6224-E6232.8.3229Analytical classical density functionals from an equation learning network. Journal of Chemical Physics, 2020, 152, 021102.1.22210Guided Self-organisation for Autonomous Robot Development., 2007, 766-775.9.91611Guiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2022, 7, eabmo608.9.01612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2016,1.21013Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor 398-409.1.21014ASensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398-409.1.21015AReinforcement Learning Approach to View Planning for Autonated Inspection Tasks. Sensors, 2021, 11, 398-409.1.6816Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 1.61.68	4	Nonlinear decoding of a complex movie from the mammalian retina. PLoS Computational Biology, 2018, 14, e1006057.	1.5	35
6Rocking Stamper and Jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive1.1277Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.0.6228Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the3.3229Analytical classical density functionals from an equation learning network. Journal of Chemical1.22210Guided Self-organisation for Autonomous Robot Development., 2007, 766-775.1911Guiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2016,9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2016,1113Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor 2016,1.21014Asensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 11, 2050.1.21015Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.6816Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68	5	The Playful Machine. Cognitive Systems Monographs, 2012, , .	0.1	29
7Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.0.6228Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6224-E6232.3.3220Analytical classical density functionals from an equation learning network. Journal of Chemical Physics, 2020, 152, 021102.1.22210Cuided Self-organisation for Autonomous Robot Development., 2007,, 766-775.1911Cuiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2016,9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2016,1113Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor 2019, 1.5, 1.21.21014A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398-409.1.21015Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.681011Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68	6	Rocking Stamper and Jumping Snakes from a Dynamical Systems Approach to Artificial Life. Adaptive Behavior, 2006, 14, 105-115.	1.1	27
8Novel plasticity rule can explain the development of sensorimotor intelligence. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6224E6232.3.3229Analytical classical density functionals from an equation learning network. Journal of Chemical Physics, 2020, 152, 021102.122210Guided Self-organisation for Autonomous Robot Development., 2007,, 766-775.1911Guiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2022, 7, eabm0608.9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2016, .1113Machine Learning for Haptics: Inferring Multi Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.1.61114A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398:409.1.21015A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 1.21.016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68	7	Variants of guided self-organization for robot control. Theory in Biosciences, 2012, 131, 129-137.	0.6	22
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10Cuided Self-organisation for Autonomous Robot Development., 2007,, 766-775.1911Cuiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2022, 7, eabm0608.9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm., 2016,1113Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.1.61.014ASensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398.409.1.21.015A.Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 2, 2030.2.11.016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68.	9	Analytical classical density functionals from an equation learning network. Journal of Chemical Physics, 2020, 152, 021102.	1.2	22
11Guiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2022, 7, eabm0608.9.91612Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm. , 2016, , .1113Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.1.61114A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398-409.1.21015A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 21, 2030.2.11016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68	10	Guided Self-organisation for Autonomous Robot Development. , 2007, , 766-775.		19
12Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm.,1113Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.1.61.114A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 988-409.1.21015A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 11, 2030.2.11016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.6817Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE1.41.4	11	Guiding the design of superresolution tactile skins with taxel value isolines theory. Science Robotics, 2022, 7, eabm0608.	9.9	16
13Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.1.61114A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 398-409.1.21015A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 21, 2030.2.11016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.6816Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE0.40.4	12	Compliant control for soft robots: Emergent behavior of a tendon driven anthropomorphic arm. , 2016, , .		11
14A Sensor-Based Learning Algorithm for the Self-Organization of Robot Behavior. Algorithms, 2009, 2, 1,21.21015A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 2,1,2030.2.11016Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.6817Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE1.40	13	Machine Learning for Haptics: Inferring Multi-Contact Stimulation From Sparse Sensor Configuration. Frontiers in Neurorobotics, 2019, 13, 51.	1.6	11
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16Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.1.68Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE0.4	15	A Reinforcement Learning Approach to View Planning for Automated Inspection Tasks. Sensors, 2021, 21, 2030.	2.1	10
Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE	16	Self-Organized Behavior Generation for Musculoskeletal Robots. Frontiers in Neurorobotics, 2017, 11, 8.	1.6	8
<sup>17</sup> Transactions on Automation Science and Engineering, 2023, 20, 425-439.	17	Predicting the Force Map of an ERT-Based Tactile Sensor Using Simulation and Deep Networks. IEEE Transactions on Automation Science and Engineering, 2023, 20, 425-439.	3.4	8

18 Structure from behavior in autonomous agents. , 2008, , .

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#	Article	IF	CITATIONS
19	Behavior as broken symmetry in embodied self-organizing robots. , 0, , .		7
20	Linear combination of one-step predictive information with an external reward in an episodic policy gradient setting: a critical analysis. Frontiers in Psychology, 2013, 4, 801.	1.1	5
21	Autonomous Identification and Goal-Directed Invocation of Event-Predictive Behavioral Primitives. IEEE Transactions on Cognitive and Developmental Systems, 2021, 13, 298-311.	2.6	5
22	Quantifying Emergent Behavior of Autonomous Robots. Entropy, 2015, 17, 7266-7297.	1.1	4
23	Robust Affordable 3D Haptic Sensation via Learning Deformation Patterns. , 2018, , .		3
24	Systematic self-exploration of behaviors for robots in a dynamical systems framework. , 2018, , .		3
25	Self-exploration of the Stumpy Robot with Predictive Information Maximization. Lecture Notes in Computer Science, 2014, , 32-42.	1.0	3
26	Learning to feel the physics of a body. , 0, , .		2
27	ROBUSTNESS OF GUIDED SELF-ORGANIZATION AGAINST SENSORIMOTOR DISRUPTIONS. International Journal of Modeling, Simulation, and Scientific Computing, 2013, 16, 1350001.	0.9	2
28	Emergence of behavioral primitives in self-organizing control and composition of behavior for autonomous robots. BMC Neuroscience, 2009, 10, .	0.8	1
29	Emergence of Interaction among Adaptive Agents. Lecture Notes in Computer Science, 2008, , 457-466.	1.0	1
30	Dynamical self-consistency leads to behavioral development and emergent social interactions in robots. , 2016, , .		0
31	Falsification of hybrid systems with symbolic reachability analysis and trajectory splicing. Nonlinear Analysis: Hybrid Systems, 2021, 42, 101093.	2.1	0