

Justus Piater

List of Publications by Year in descending order

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Version: 2024-02-01

98
papers

1,887
citations

430874

18
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330143

37
g-index

102
all docs

102
docs citations

102
times ranked

1617
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 1 | Deep Hierarchies in the Primate Visual Cortex: What Can We Learn for Computer Vision?. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2013, 35, 1847-1871. | 13.9 | 285 |
| 2 | Object-Action Complexes: Grounded abstractions of sensory-motor processes. Robotics and Autonomous Systems, 2011, 59, 740-757. | 5.1 | 127 |
| 3 | Affordances in Psychology, Neuroscience, and Robotics: A Survey. IEEE Transactions on Cognitive and Developmental Systems, 2018, 10, 4-25. | 3.8 | 108 |
| 4 | Combining active learning and reactive control for robot grasping. Robotics and Autonomous Systems, 2010, 58, 1105-1116. | 5.1 | 107 |
| 5 | Developing haptic and visual perceptual categories for reaching and grasping with a humanoid robot. Robotics and Autonomous Systems, 2001, 37, 195-218. | 5.1 | 74 |
| 6 | Learning Grasp Affordance Densities. Paladyn, 2011, 2, 1-17. | 2.7 | 65 |
| 7 | Multi-camera People Tracking by Collaborative Particle Filters and Principal Axis-Based Integration. , 2007, , 365-374. | | 62 |
| 8 | A Simple Ontology of Manipulation Actions Based on Hand-Object Relations. IEEE Transactions on Autonomous Mental Development, 2013, 5, 117-134. | 1.6 | 53 |
| 9 | Symbol Emergence in Cognitive Developmental Systems: A Survey. IEEE Transactions on Cognitive and Developmental Systems, 2019, 11, 494-516. | 3.8 | 53 |
| 10 | Computational models of affordance in robotics: a taxonomy and systematic classification. Adaptive Behavior, 2017, 25, 235-271. | 1.9 | 49 |
| 11 | Bottom-up learning of object categories, action effects and logical rules: From continuous manipulative exploration to symbolic planning. , 2015, , . | | 48 |
| 12 | Generalizing grasps across partly similar objects. , 2012, , . | | 47 |
| 13 | Teaching a Robot the Semantics of Assembly Tasks. IEEE Transactions on Systems, Man, and Cybernetics: Systems, 2018, 48, 670-692. | 9.3 | 46 |
| 14 | A Push-Pull CORF Model of a Simple Cell with Antiphase Inhibition Improves SNR and Contour Detection. PLoS ONE, 2014, 9, e98424. | 2.5 | 38 |
| 15 | A Probabilistic Approach to Integrating Multiple Cues in Visual Tracking. Lecture Notes in Computer Science, 2008, , 225-238. | 1.3 | 28 |
| 16 | Development of Object and Grasping Knowledge by Robot Exploration. IEEE Transactions on Autonomous Mental Development, 2010, 2, 368-383. | 1.6 | 27 |
| 17 | Probabilistic Detection of Pointing Directions for Human-Robot Interaction. , 2015, , . | | 26 |
| 18 | Refining grasp affordance models by experience. , 2010, , . | | 23 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Learning visual representations for perception-action systems. International Journal of Robotics Research, 2011, 30, 294-307. | 8.5 | 22 |
| 20 | Fuzzy Sets for Feature Identification in Biomedical Signals with Self-Assessment of Reliability: An Adaptable Algorithm Modeling Human Procedure in BAEP Analysis. Journal of Biomedical Informatics, 1995, 28, 335-353. | 0.7 | 21 |
| 21 | Structural Bootstrapping – A Novel, Generative Mechanism for Faster and More Efficient Acquisition of Action-Knowledge. IEEE Transactions on Autonomous Mental Development, 2015, 7, 140-154. | 1.6 | 21 |
| 22 | Biomedical Image Classification with Random Subwindows and Decision Trees. Lecture Notes in Computer Science, 2005, , 220-229. | 1.3 | 21 |
| 23 | The Effects of Social Gaze in Human-Robot Collaborative Assembly. Lecture Notes in Computer Science, 2015, , 204-213. | 1.3 | 20 |
| 24 | Bootstrapping paired-object affordance learning with learned single-affordance features. , 2014, , . | | 19 |
| 25 | Multiview feature distributions for object detection and continuous pose estimation. Computer Vision and Image Understanding, 2014, 125, 265-282. | 4.7 | 19 |
| 26 | Pushing corridors for delivering unknown objects with a mobile robot. Autonomous Robots, 2019, 43, 1435-1452. | 4.8 | 18 |
| 27 | A multi-view hand gesture RGB-D dataset for human-robot interaction scenarios. , 2016, , . | | 17 |
| 28 | Active learning using mean shift optimization for robot grasping. , 2009, , . | | 16 |
| 29 | Emergent Structuring of Interdependent Affordance Learning Tasks Using Intrinsic Motivation and Empirical Feature Selection. IEEE Transactions on Cognitive and Developmental Systems, 2017, 9, 328-340. | 3.8 | 16 |
| 30 | Integrating multi-purpose natural language understanding, robot’s memory, and symbolic planning for task execution in humanoid robots. Robotics and Autonomous Systems, 2018, 99, 148-165. | 5.1 | 16 |
| 31 | Towards affordance detection for robot manipulation using affordance for parts and parts for affordance. Autonomous Robots, 2019, 43, 1155-1172. | 4.8 | 16 |
| 32 | A robust pushing skill for object delivery between obstacles. , 2016, , . | | 14 |
| 33 | Continuous Surface-Point Distributions for 3D Object Pose Estimation and Recognition. Lecture Notes in Computer Science, 2011, , 572-585. | 1.3 | 14 |
| 34 | Emergent structuring of interdependent affordance learning tasks. , 2014, , . | | 13 |
| 35 | Robotic playing for hierarchical complex skill learning. , 2016, , . | | 13 |
| 36 | Integration of Probabilistic Pose Estimates from Multiple Views. Lecture Notes in Computer Science, 2016, , 154-170. | 1.3 | 13 |

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| 37 | Action representations in robotics: A taxonomy and systematic classification. International Journal of Robotics Research, 2019, 38, 518-562. | 8.5 | 13 |
| 38 | Active learning of manipulation sequences. , 2014, , . | | 12 |
| 39 | Learning Semantics of Gestural Instructions for Human-Robot Collaboration. Frontiers in Neurobotics, 2018, 12, 7. | 2.8 | 12 |
| 40 | Learning Objects and Grasp Affordances through Autonomous Exploration. Lecture Notes in Computer Science, 2009, , 235-244. | 1.3 | 12 |
| 41 | Learning Visual Representations for Interactive Systems. Springer Tracts in Advanced Robotics, 2011, , 399-416. | 0.4 | 12 |
| 42 | Refining discovered symbols with multi-step interaction experience. , 2015, , . | | 11 |
| 43 | Unsupervised learning of predictive parts for cross-object grasp transfer. , 2013, , . | | 10 |
| 44 | Skill Learning by Autonomous Robotic Playing Using Active Learning and Exploratory Behavior Composition. Frontiers in Robotics and AI, 2020, 7, 42. | 3.2 | 10 |
| 45 | Tracking by Cluster Analysis of Feature Points and Multiple Particle Filters. Lecture Notes in Computer Science, 2005, , 701-710. | 1.3 | 10 |
| 46 | Data Fusion by Belief Propagation for Multi-Camera Tracking. , 2006, , . | | 9 |
| 47 | Learning probabilistic discriminative models of grasp affordances under limited supervision. , 2010, , . | | 9 |
| 48 | Continuous Pose Estimation in 2D Images at Instance and Category Levels. , 2013, , . | | 9 |
| 49 | Knowledge propagation and relation learning for predicting action effects. , 2014, , . | | 9 |
| 50 | Using structural bootstrapping for object substitution in robotic executions of human-like manipulation tasks. , 2015, , . | | 9 |
| 51 | Using multi-modal 3D contours and their relations for vision and robotics. Journal of Visual Communication and Image Representation, 2010, 21, 850-864. | 2.8 | 8 |
| 52 | Sampling-Based Multiview Reconstruction without Correspondences for 3D Edges. , 2012, , . | | 8 |
| 53 | A Study of Point Cloud Registration with Probability Product Kernel Functions. , 2013, , . | | 8 |
| 54 | Diversity priors for learning early visual features. Frontiers in Computational Neuroscience, 2015, 9, 104. | 2.1 | 8 |

| # | ARTICLE | IF | CITATIONS |
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| 55 | Exercising Affordances of Objects: A Part-Based Approach. IEEE Robotics and Automation Letters, 2018, 3, 3465-3472. | 5.1 | 8 |
| 56 | On-Line Rectification of Sport Sequences with Moving Cameras. Lecture Notes in Computer Science, 2007, , 736-746. | 1.3 | 8 |
| 57 | Reconfigurable Behavior Trees: Towards an Executive Framework Meeting High-level Decision Making and Control Layer Features. , 2020, , . | | 8 |
| 58 | Manipulation Planning Using Object-Centered Predicates and Hierarchical Decomposition of Contextual Actions. IEEE Robotics and Automation Letters, 2020, 5, 5629-5636. | 5.1 | 7 |
| 59 | Towards Sparsity and Selectivity: Bayesian Learning of Restricted Boltzmann Machine for Early Visual Features. Lecture Notes in Computer Science, 2014, , 419-426. | 1.3 | 7 |
| 60 | Negotiating Instruction Strategies during Robot Action Demonstration. , 2015, , . | | 6 |
| 61 | Probabilistic Pose Recovery Using Learned Hierarchical Object Models. Lecture Notes in Computer Science, 2008, , 107-120. | 1.3 | 6 |
| 62 | Non-rigid object tracker based on a robust combination of parametric active contour and point distribution model. , 2007, , . | | 5 |
| 63 | Ground-Target Tracking in Multiple Cameras Using Collaborative Particle Filters and Principal Axis-Based Integration. IPSJ Transactions on Computer Vision and Applications, 2009, 1, 58-71. | 4.4 | 5 |
| 64 | Autonomous robots: potential, advances and future direction. Elektrotechnik Und Informationstechnik, 2017, 134, 293-298. | 1.1 | 5 |
| 65 | Can Affordances Guide Object Decomposition into Semantically Meaningful Parts?. , 2017, , . | | 5 |
| 66 | A Comparison of Generic Machine Learning Algorithms for Image Classification. , 2004, , 169-182. | | 4 |
| 67 | Generalized Exemplar-Based Full Pose Estimation from 2D Images without Correspondences. , 2012, , . | | 4 |
| 68 | SCurV: A 3D descriptor for object classification. , 2015, , . | | 4 |
| 69 | Scalable, accurate image annotation with joint SVMs and output kernels. Neurocomputing, 2015, 169, 205-214. | 5.9 | 4 |
| 70 | Reactive, task-specific object manipulation by metric reinforcement learning. , 2015, , . | | 4 |
| 71 | Online Adaptation of Robot Pushing Control to Object Properties. , 2018, , . | | 4 |
| 72 | Multi-view Object Tracking Using Sequential Belief Propagation. Lecture Notes in Computer Science, 2006, , 684-693. | 1.3 | 4 |

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|----|--|-----|-----------|
| 73 | Homogeneity analysis for object-action relation reasoning in kitchen scenarios. , 2013, , . | | 4 |
| 74 | Probabilistic Object Models for Pose Estimation in 2D Images. Lecture Notes in Computer Science, 2011, , 336-345. | 1.3 | 3 |
| 75 | Hand Modeling and Tracking for Video-Based Sign Language Recognition by Robust Principal Component Analysis. Lecture Notes in Computer Science, 2012, , 273-285. | 1.3 | 3 |
| 76 | Unsupervised Learning of Visual Feature Hierarchies. Lecture Notes in Computer Science, 2005, , 243-252. | 1.3 | 2 |
| 77 | Efficient, General Point Cloud Registration with Kernel Feature Maps. , 2013, , . | | 2 |
| 78 | Human Smile Distinguishes between Collaborative and Solitary Tasks in Human-Robot Interaction. , 2015, , . | | 2 |
| 79 | Combining decision making and dynamical systems for monitoring and executing manipulation tasks. Elektrotechnik Und Informationstechnik, 2020, 137, 309-315. | 1.1 | 2 |
| 80 | General Object Tip Detection and Pose Estimation for Robot Manipulation. Lecture Notes in Computer Science, 2015, , 364-374. | 1.3 | 2 |
| 81 | Adapting Preshaped Grasping Movements Using Vision Descriptors. Lecture Notes in Computer Science, 2010, , 156-166. | 1.3 | 2 |
| 82 | Learning V4 Curvature Cell Populations from Sparse Endstopped Cells. Lecture Notes in Computer Science, 2016, , 463-471. | 1.3 | 2 |
| 83 | Introduction to the special issue: International Conference on Vision Systems. Machine Vision and Applications, 2004, 16, 4-5. | 2.7 | 1 |
| 84 | Using 3D contours and their relations for cognitive vision and robotics. , 2009, , . | | 1 |
| 85 | What a successful grasp tells about the success chances of grasps in its vicinity. , 2011, , . | | 1 |
| 86 | Multi-label Object Categorization Using Histograms of Global Relations. , 2015, , . | | 1 |
| 87 | CPS: 3D Compositional Part Segmentation through Grasping. , 2015, , . | | 1 |
| 88 | Kronecker Decomposition for Image Classification. Lecture Notes in Computer Science, 2016, , 137-149. | 1.3 | 1 |
| 89 | ROSSINI: RobOt kidS deSIgn thiNkIng. Advances in Intelligent Systems and Computing, 2021, , 16-25. | 0.6 | 1 |
| 90 | 3D Object Class Geometry Modeling with Spatial Latent Dirichlet Markov Random Fields. Lecture Notes in Computer Science, 2013, , 51-60. | 1.3 | 1 |

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| 91 | Sequential variational inference for distributed multi-sensor tracking and fusion. , 2007, , . | | 0 |
| 92 | Planning readings: a comparative exploration of basic algorithms. Computer Science Education, 2009, 19, 179-192. | 3.7 | 0 |
| 93 | Complex affordance learning based on basic affordances. , 2014, , . | | 0 |
| 94 | Beyond Simple and Complex Neurons: Towards Intermediate-level Representations of Shapes and Objects. KI - Kunstliche Intelligenz, 2015, 29, 19-29. | 3.2 | 0 |
| 95 | Learning undirected graphical models using persistent sequential Monte Carlo. Machine Learning, 2016, 103, 239-260. | 5.4 | 0 |
| 96 | Autonomous skill-centric testing using deep learning. , 2017, , . | | 0 |
| 97 | Affine Warp Propagation for Fast Simultaneous Modelling and Tracking of Articulated Objects. Lecture Notes in Computer Science, 2011, , 422-435. | 1.3 | 0 |
| 98 | Modeling Pose/Appearance Relations for Improved Object Localization and Pose Estimation in 2D images. Lecture Notes in Computer Science, 2013, , 59-68. | 1.3 | 0 |