

# Roberto Santana

## List of Publications by Year in descending order

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Version: 2024-02-01

146  
papers

2,335  
citations

361413

20  
h-index

265206

42  
g-index

152  
all docs

152  
docs citations

152  
times ranked

2394  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | On the human evaluation of universal audio adversarial perturbations. Computers and Security, 2022, 112, 102495.   | 6.0  | 8         |
| 2  | Analysis of dominant classes in universal adversarial perturbations. Knowledge-Based Systems, 2022, 236, 107719.   | 7.1  | 1         |
| 3  | Adversarial Perturbations for Evolutionary Optimization. Lecture Notes in Computer Science, 2022, , 408-422.   | 1.3  | 1         |
| 4  | Informative neural representations of unseen contents during higher-order processing in human brains and deep artificial networks. Nature Human Behaviour, 2022, 6, 720-731.                           | 12.0 | 7         |
| 5  | A grammar-based GP approach applied to the design of deep neural networks. Genetic Programming and Evolvable Machines, 2022, 23, 427-452.  | 2.2  | 3         |
| 6  | In-depth analysis of SVM kernel learning and its components. Neural Computing and Applications, 2021, 33, 6575-6594.   | 5.6  | 12        |
| 7  | Automatic Design of Deep Neural Networks Applied to Image Segmentation Problems. Lecture Notes in Computer Science, 2021, , 98-113.  | 1.3  | 3         |
| 8  | Analysis of Bayesian Network Learning Techniques for a Hybrid Multi-objective Bayesian Estimation of Distribution Algorithm: a case study on MNK Landscape. Journal of Heuristics, 2021, 27, 549-573.  | 1.4  | 8         |
| 9  | Analysis of the sensitivity of the End-Of-Turn Detection task to errors generated by the Automatic Speech Recognition process. Engineering Applications of Artificial Intelligence, 2021, 100, 104189. | 8.1  | 5         |
| 10 | Towards Automatic Construction of Multi-Network Models for Heterogeneous Multi-Task Learning. ACM Transactions on Knowledge Discovery From Data, 2021, 15, 1-23.                                       | 3.5  | 1         |
| 11 | Evolution of Gaussian Process kernels for machine translation post-editing effort estimation. Annals of Mathematics and Artificial Intelligence, 2021, 89, 835-856.                                    | 1.3  | 3         |
| 12 | On the exploitation of neuroevolutionary information. , 2021, , .  |      | 3         |
| 13 | Estimation of distribution algorithms for the computation of innovation estimators of diffusion processes. Mathematics and Computers in Simulation, 2021, 187, 449-467.                                | 4.4  | 5         |
| 14 | Evolving Gaussian process kernels from elementary mathematical expressions for time series extrapolation. Neurocomputing, 2021, 462, 426-439.  | 5.9  | 3         |
| 15 | Dynamic programming operators for the bi-objective Traveling Thief Problem. , 2020, , .  |      | 0         |
| 16 | Tool-Path Problem in Direct Energy Deposition Metal-Additive Manufacturing: Sequence Strategy Generation. IEEE Access, 2020, 8, 91574-91585.   | 4.2  | 5         |
| 17 | Transfer learning in hierarchical dialogue topic classification with neural networks*. , 2020, , .   |      | 0         |
| 18 | Envisioning the Benefits of Back-Drive in Evolutionary Algorithms. , 2020, , .   |      | 1         |

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|----|--|-----|-----------|
| 19 | A Symmetric grammar approach for designing segmentation models. , 2020, , .  |     | 3         |
| 20 | Decoding and encoding models reveal the role of mental simulation in the brain representation of meaning. Royal Society Open Science, 2020, 7, 192043.   | 2.4 | 8         |
| 21 | Evolving Gaussian Process Kernels for Translation Editing Effort Estimation. Lecture Notes in Computer Science, 2020, , 304-318.   | 1.3 | 3         |
| 22 | Analysis of the transferability and robustness of GANs evolved for Pareto set approximations. Neural Networks, 2020, 132, 281-296.   | 5.9 | 7         |
| 23 | Evaluation of the Temperature and Time in Centrifugation-Assisted Freeze Concentration. Applied Sciences (Switzerland), 2020, 10, 9130.  | 2.5 | 3         |
| 24 | Exploring Gaps in DeepFool in Search of More Effective Adversarial Perturbations. Lecture Notes in Computer Science, 2020, , 215-227.  | 1.3 | 1         |
| 25 | Adaptation of a Branching Algorithm to Solve the Multi-Objective Hamiltonian Cycle Problem. Operations Research Proceedings: Papers of the Annual Meeting = Vorträge Der Jahrestagung / DGOR, 2020, , 231-237. | 0.1 | 0         |
| 26 | Investigating RNNs for vehicle volume forecasting in service stations. , 2020, , .   |     | 3         |
| 27 | EvoFlow: A Python library for evolving deep neural network architectures in tensorflow. , 2020, , .  |     | 3         |
| 28 | Bayesian Optimization Approaches for Massively Multi-modal Problems. Lecture Notes in Computer Science, 2020, , 383-397.   | 1.3 | 2         |
| 29 | Automatic Structural Search for Multi-task Learning VALPs. Communications in Computer and Information Science, 2020, , 25-36.  | 0.5 | 2         |
| 30 | Multi-objective Approach to the Protein Structure Prediction Problem. , 2020, , 151-169.   |     | 0         |
| 31 | A Dialogue-Act Taxonomy for a Virtual Coach Designed to Improve the Life of Elderly. Multimodal Technologies and Interaction, 2019, 3, 52.   | 2.5 | 22        |
| 32 | Sentiment analysis with genetically evolved gaussian kernels. , 2019, , .  |     | 3         |
| 33 | Optimizing permutation-based problems with a discrete vine-copula as a model for EDA. , 2019, , .  |     | 2         |
| 34 | GP-based methods for domain adaptation: using brain decoding across subjects as a test-case. Genetic Programming and Evolvable Machines, 2019, 20, 385-411.  | 2.2 | 4         |
| 35 | An Experimental Study in Adaptive Kernel Selection for Bayesian Optimization. IEEE Access, 2019, 7, 184294-184302.   | 4.2 | 8         |
| 36 | Automatic Design of Convolutional Neural Networks using Grammatical Evolution. , 2019, , .   |     | 3         |

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|----|--|-----|-----------|
| 37 | Detection of sand dunes on Mars using a regular vine-based classification approach. Knowledge-Based Systems, 2019, 163, 858-874.   | 7.1 | 14        |
| 38 | How the brain encodes meaning: Comparing word embedding and computer vision models to predict fMRI data during visual word recognition. , 2019, , .  |     | 0         |
| 39 | An investigation of the selection strategies impact on MOEDAs: CMA-ES and UMDA. Applied Soft Computing Journal, 2018, 62, 963-973.   | 7.2 | 7         |
| 40 | Hybrid multi-objective Bayesian estimation of distribution algorithm: a comparative analysis for the multi-objective knapsack problem. Journal of Heuristics, 2018, 24, 25-47.                     | 1.4 | 8         |
| 41 | On the Performance of Multi-Objective Estimation of Distribution Algorithms for Combinatorial Problems. , 2018, , .  |     | 8         |
| 42 | Analysis of the Complexity of the Automatic Pipeline Generation Problem. , 2018, , .   |     | 11        |
| 43 | Exploring the probabilistic graphic model of a hybrid multi-objective Bayesian estimation of distribution algorithm. Applied Soft Computing Journal, 2018, 73, 328-343.                            | 7.2 | 5         |
| 44 | Algorithm 989. ACM Transactions on Mathematical Software, 2018, 44, 1-13.  | 2.9 | 7         |
| 45 | Modeling dependencies between decision variables and objectives with copula models. , 2018, , .  |     | 2         |
| 46 | Evolved GANs for generating pareto set approximations. , 2018, , .   |     | 24        |
| 47 | Expanding variational autoencoders for learning and exploiting latent representations in search distributions. , 2018, , .   |     | 8         |
| 48 | Feature extraction-based prediction of tool wear of Inconel 718 in face turning. Insight: Non-Destructive Testing and Condition Monitoring, 2018, 60, 443-450.                                     | 0.6 | 9         |
| 49 | The Relationship Between Graphical Representations of Regular Vine Copulas and Polytrees. Communications in Computer and Information Science, 2018, , 678-690.                                     | 0.5 | 0         |
| 50 | Not all PBILs are the same: Unveiling the different learning mechanisms of PBIL variants. Applied Soft Computing Journal, 2017, 53, 88-96.   | 7.2 | 8         |
| 51 | Multiobjective decomposition-based Mallows Models estimation of distribution algorithm. A case of study for permutation flowshop scheduling problem. Information Sciences, 2017, 397-398, 137-154. | 6.9 | 29        |
| 52 | A decomposition-based binary ACO algorithm for the multiobjective UBQP. Neurocomputing, 2017, 246, 58-68.  | 5.9 | 16        |
| 53 | An investigation of clustering strategies in many-objective optimization: the I-Multi algorithm as a case study. Swarm Intelligence, 2017, 11, 101-130.  | 2.2 | 11        |
| 54 | An extensive analysis of the interaction between missing data types, imputation methods, and supervised classifiers. Expert Systems With Applications, 2017, 89, 52-65.                            | 7.6 | 78        |

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|----|--|-----|-----------|
| 55 | A comparison of probabilistic-based optimization approaches for vehicle routing problems. , 2017, , .  |     | 3         |
| 56 | Combining CMA-ES and MOEA/DD for many-objective optimization. , 2017, , .  |     | 9         |
| 57 | Automated design of hyper-heuristics components to solve the PSP problem with HP model. , 2017, , .  |     | 4         |
| 58 | Different scenarios for survival analysis of evolutionary algorithms. , 2017, , .  |     | 0         |
| 59 | Transfer weight functions for injecting problem information in the multi-objective CMA-ES. Memetic Computing, 2017, 9, 153-180.  | 4.0 | 3         |
| 60 | Probabilistic Analysis of Pareto Front Approximation for a Hybrid Multi-objective Bayesian Estimation of Distribution Algorithm. , 2017, , .   |     | 3         |
| 61 | User Adapted Motor-Imaginary Brain-Computer Interface by means of EEG Channel Selection Based on Estimation of Distributed Algorithms. Mathematical Problems in Engineering, 2016, 2016, 1-12. | 1.1 | 9         |
| 62 | Investigating Selection Strategies in Multi-objective Probabilistic Model Based Algorithms. , 2016, , .  |     | 0         |
| 63 | Maximal nonlinearity in balanced boolean functions with even number of inputs, revisited. , 2016, , .  |     | 10        |
| 64 | On the Design of Hard mUBQP Instances. , 2016, , .   |     | 0         |
| 65 | Evolutionary Approaches to Optimization Problems in Chimera Topologies. , 2016, , .  |     | 0         |
| 66 | HMOBEDA. , 2016, , .   |     | 6         |
| 67 | Evolutionary Optimization of Compiler Flag Selection by Learning and Exploiting Flags Interactions. , 2016, , .  |     | 13        |
| 68 | Vine copula classifiers for the mind reading problem. Progress in Artificial Intelligence, 2016, 5, 289-305.   | 2.4 | 6         |
| 69 | A review of message passing algorithms in estimation of distribution algorithms. Natural Computing, 2016, 15, 165-180.   | 3.0 | 3         |
| 70 | C-Multi: A competent multi-swarm approach for many-objective problems. Neurocomputing, 2016, 180, 68-78.   | 5.9 | 13        |
| 71 | Mixtures of Generalized Mallows models for solving the quadratic assignment problem. , 2015, , .   |     | 1         |
| 72 | Capturing Relationships in Multi-objective Optimization. , 2015, , .   |     | 3         |

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|----|--|------|-----------|
| 73 | Multi-objective NM-Landscapes. , 2015, , .   |      | 2         |
| 74 | Multi-view classification of psychiatric conditions based on saccades. Applied Soft Computing Journal, 2015, 31, 308-316.  | 7.2  | 2         |
| 75 | Comprehensive characterization of the behaviors of estimation of distribution algorithms. Theoretical Computer Science, 2015, 598, 64-86.                                  | 0.9  | 6         |
| 76 | Fighting the Symmetries. , 2015, , .   |      | 11        |
| 77 | Evolving MNK-landscapes with structural constraints. , 2015, , .   |      | 6         |
| 78 | Multiobjective Estimation of Distribution Algorithm Based on Joint Modeling of Objectives and Variables. IEEE Transactions on Evolutionary Computation, 2014, 18, 519-542. | 10.0 | 80        |
| 79 | A Probabilistic Evolutionary Optimization Approach to Compute Quasiparticle Braids. Lecture Notes in Computer Science, 2014, , 13-24.                                      | 1.3  | 1         |
| 80 | Regularized continuous estimation of distribution algorithms. Applied Soft Computing Journal, 2013, 13, 2412-2432.   | 7.2  | 23        |
| 81 | Symmetry in evolutionary and estimation of distribution algorithms. , 2013, , .  |      | 2         |
| 82 | A review on evolutionary algorithms in Bayesian network learning and inference tasks. Information Sciences, 2013, 233, 109-125.  | 6.9  | 110       |
| 83 | Multi-objective optimization approach to detecting extremal patterns in social networks. , 2013, , .   |      | 0         |
| 84 | Model-based template-recombination in Markov network estimation of distribution algorithms for problems with discrete representation. , 2013, , .                          |      | 1         |
| 85 | On the Taxonomy of Optimization Problems Under Estimation of Distribution Algorithms. Evolutionary Computation, 2013, 21, 471-495.   | 3.0  | 13        |
| 86 | Network measures for information extraction in evolutionary algorithms. International Journal of Computational Intelligence Systems, 2013, 6, 1163-1188.                   | 2.7  | 13        |
| 87 | Classification of neocortical interneurons using affinity propagation. Frontiers in Neural Circuits, 2013, 7, 185.   | 2.8  | 28        |
| 88 | Message Passing Methods for Estimation of Distribution Algorithms Based on Markov Networks. Lecture Notes in Computer Science, 2013, , 419-430.                            | 1.3  | 2         |
| 89 | Critical Issues in Model-Based Surrogate Functions in Estimation of Distribution Algorithms. Lecture Notes in Computer Science, 2013, , 1-13.                              | 1.3  | 2         |
| 90 | Maximizing the number of polychronous groups in spiking networks. , 2012, , .  |      | 0         |

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|-----|---|------|-----------|
| 91  | Introducing the use of model-based evolutionary algorithms for EEG-based motor imagery classification. , 2012, , .  |      | 2         |
| 92  | Evolving NK-complexity for evolutionary solvers. , 2012, , .  |      | 2         |
| 93  | An analysis of the use of probabilistic modeling for synaptic connectivity prediction from genomic data. , 2012, , .  |      | 0         |
| 94  | Structural transfer using EDAs: An application to multi-marker tagging SNP selection. , 2012, , .   |      | 18        |
| 95  | Regularized logistic regression and multiobjective variable selection for classifying MEG data. Biological Cybernetics, 2012, 106, 389-405.                                 | 1.3  | 8         |
| 96  | A review on probabilistic graphical models in evolutionary computation. Journal of Heuristics, 2012, 18, 795-819.   | 1.4  | 70        |
| 97  | Probabilistic Graphical Models and Markov Networks. Adaptation, Learning, and Optimization, 2012, , 3-19.   | 0.6  | 1         |
| 98  | A Review of Estimation of Distribution Algorithms and Markov Networks. Adaptation, Learning, and Optimization, 2012, , 21-37.   | 0.6  | 6         |
| 99  | MOA - Markovian Optimisation Algorithm. Adaptation, Learning, and Optimization, 2012, , 39-53.  | 0.6  | 1         |
| 100 | MN-EDA and the Use of Clique-Based Factorisations in EDAs. Adaptation, Learning, and Optimization, 2012, , 73-87.   | 0.6  | 1         |
| 101 | A Markovianity based optimisation algorithm. Genetic Programming and Evolvable Machines, 2012, 13, 159-195.   | 2.2  | 28        |
| 102 | Toward Understanding EDAs Based on Bayesian Networks Through a Quantitative Analysis. IEEE Transactions on Evolutionary Computation, 2012, 16, 173-189.                     | 10.0 | 18        |
| 103 | Conductance interaction identification by means of Boltzmann distribution and mutual information analysis in conductance-based neuron models. BMC Neuroscience, 2012, 13, . | 1.9  | 1         |
| 104 | Continuous Estimation of Distribution Algorithms Based on Factorized Gaussian Markov Networks. Adaptation, Learning, and Optimization, 2012, , 157-173.                     | 0.6  | 5         |
| 105 | Fast Fitness Improvements in Estimation of Distribution Algorithms Using Belief Propagation. Adaptation, Learning, and Optimization, 2012, , 141-155.                       | 0.6  | 4         |
| 106 | Optimizing Brain Networks Topologies Using Multi-objective Evolutionary Computation. Neuroinformatics, 2011, 9, 3-19.   | 2.8  | 12        |
| 107 | Univariate marginal distribution algorithm dynamics for a class of parametric functions with unication constraints. Information Sciences, 2011, 181, 2340-2355.             | 6.9  | 17        |
| 108 | Quantitative genetics in multi-objective optimization algorithms. , 2011, , .   |      | 1         |

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|-----|--|-----|-----------|
| 109 | Estimation of distribution algorithms. , 2011, , .   |     | 9         |
| 110 | Affinity propagation enhanced by estimation of distribution algorithms. , 2011, , .  |     | 5         |
| 111 | Regularized k-order markov models in EDAs. , 2011, , .   |     | 2         |
| 112 | A direct optimization approach to the P300 speller. , 2011, , .  |     | 2         |
| 113 | A differential evolution algorithm for the detection of synaptic vesicles. , 2011, , .   |     | 1         |
| 114 | On the limits of effectiveness in estimation of distribution algorithms. , 2011, , .   |     | 13        |
| 115 | Multi-objective Optimization with Joint Probabilistic Modeling of Objectives and Variables. Lecture Notes in Computer Science, 2011, , 298-312.  | 1.3 | 8         |
| 116 | Multi-marker tagging single nucleotide polymorphism selection using estimation of distribution algorithms. Artificial Intelligence in Medicine, 2010, 50, 193-201.   | 6.5 | 11        |
| 117 | Bivariate empirical and n-variate Archimedean copulas in estimation of distribution algorithms. , 2010, , .  |     | 14        |
| 118 | Estimation of Bayesian networks algorithms in a class of complex networks. , 2010, , .   |     | 2         |
| 119 | Learning Factorizations in Estimation of Distribution Algorithms Using Affinity Propagation. Evolutionary Computation, 2010, 18, 515-546.  | 3.0 | 22        |
| 120 | Using Probabilistic Dependencies Improves the Search of Conductance-Based Compartmental Neuron Models. Lecture Notes in Computer Science, 2010, , 170-181.   | 1.3 | 1         |
| 121 | Analyzing the k Most Probable Solutions in EDAs Based on Bayesian Networks. Adaptation, Learning, and Optimization, 2010, , 163-189.   | 0.6 | 2         |
| 122 | Synergies between Network-Based Representation and Probabilistic Graphical Models for Classification, Inference and Optimization Problems in Neuroscience. Lecture Notes in Computer Science, 2010, , 149-158. | 1.3 | 1         |
| 123 | <b>Mateda-2.0</b>: A<i>MATLAB</i>Package for the Implementation and Analysis of Estimation of Distribution Algorithms. Journal of Statistical Software, 2010, 35, .  | 3.7 | 37        |
| 124 | Analyzing the probability of the optimum in EDAs based on Bayesian networks. , 2009, , .   |     | 9         |
| 125 | Mining probabilistic models learned by EDAs in the optimization of multi-objective problems. , 2009, , .   |     | 16        |
| 126 | Research topics in discrete estimation of distribution algorithms based on factorizations. Memetic Computing, 2009, 1, 35-54.  | 4.0 | 28        |



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|-----|--|------|-----------|
| 127 | Combining variable neighborhood search and estimation of distribution algorithms in the protein side chain placement problem. <i>Journal of Heuristics</i> , 2008, 14, 519-547.                                | 1.4  | 34        |
| 128 | A review of estimation of distribution algorithms in bioinformatics. <i>BioData Mining</i> , 2008, 1, 6.   | 4.0  | 61        |
| 129 | Protein Folding in Simplified Models With Estimation of Distribution Algorithms. <i>IEEE Transactions on Evolutionary Computation</i> , 2008, 12, 418-438.   | 10.0 | 110       |
| 130 | An EDA based on local markov property and gibbs sampling. , 2008, , .  |      | 15        |
| 131 | Component weighting functions for adaptive search with EDAs. , 2008, , .   |      | 3         |
| 132 | Adaptive Estimation of Distribution Algorithms. <i>Studies in Computational Intelligence</i> , 2008, , 177-197.  | 0.9  | 11        |
| 133 | The Impact of Exact Probabilistic Learning Algorithms in EDAs Based on Bayesian Networks. <i>Studies in Computational Intelligence</i> , 2008, , 109-139.  | 0.9  | 13        |
| 134 | Adding Probabilistic Dependencies to the Search of Protein Side Chain Configurations Using EDAs. <i>Lecture Notes in Computer Science</i> , 2008, , 1120-1129.   | 1.3  | 3         |
| 135 | A parallel framework for loopy belief propagation. , 2007, , .   |      | 15        |
| 136 | Exact Bayesian network learning in estimation of distribution algorithms. , 2007, , .  |      | 26        |
| 137 | Side chain placement using estimation of distribution algorithms. <i>Artificial Intelligence in Medicine</i> , 2007, 39, 49-63.  | 6.5  | 34        |
| 138 | The Role of a Priori Information in the Minimization of Contact Potentials by Means of Estimation of Distribution Algorithms. , 2007, , 247-257.   |      | 13        |
| 139 | Machine learning in bioinformatics. <i>Briefings in Bioinformatics</i> , 2006, 7, 86-112.  | 6.5  | 674       |
| 140 | Mixtures of Kikuchi Approximations. <i>Lecture Notes in Computer Science</i> , 2006, , 365-376.  | 1.3  | 11        |
| 141 | A novel in-silico approach for QSAR Studies of Anabolic and Androgenic Activities in the 17 $\beta$ -hydroxy-5 $\alpha$ -androstane Steroid Family. <i>QSAR and Combinatorial Science</i> , 2005, 24, 218-226. | 1.4  | 22        |
| 142 | Estimation of Distribution Algorithms with Kikuchi Approximations. <i>Evolutionary Computation</i> , 2005, 13, 67-97.  | 3.0  | 73        |
| 143 | Protein Folding in 2-Dimensional Lattices with Estimation of Distribution Algorithms. <i>Lecture Notes in Computer Science</i> , 2004, , 388-398.  | 1.3  | 13        |
| 144 | A Markov Network Based Factorized Distribution Algorithm for Optimization. <i>Lecture Notes in Computer Science</i> , 2003, , 337-348.   | 1.3  | 34        |

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|-----|---|-----|-----------|
| 145 | On the use of Factorized Distribution Algorithms for problems defined on graphs. <i>Electronic Notes in Discrete Mathematics</i> , 2001, 8, 84. | 0.4 | 0         |
| 146 | An empirical comparison of distance/similarity measures for Natural Language Processing. , 0, , .   |     | 2         |