Marcello Sanguineti – Short CV

Born 16/01/1968 in Chiavari (Genova), Italy.

Nationality: Italian.

Full Professor of Operations Research at the University of Genova (Dept. of Computer Science, Bioengineering, Robotics, and Systems Engineering - DIBRIS)



Research Associate at CNR – National Research Council of Italy

Guest Scholar at IMT - School for Advances Studies, Lucca (AXES Research Unit: Analysis of CompleX Economic Systems)

Member of the Executive Committee of ENNS - European Neural Networks Society

Member of STM - Technical Structure of Mission for Strategic Planning, Infrastructure Development and High Supervision of MIT - **Ministry of Infrastructure and Transport of Italy**

Education

1992: Laurea (MSc) degree, 110/110 cum laude in Electronic Engineering (University of Genova, Italy).

1996: PhD in Electronic Engineering and Computer Science (University of Genova, Italy).

Research

Most recent research interests:

- mathematics of machine learning
- neural networks for optimization
- game-theoretical models
- complex networks analysis
- human-computer interaction
- affective computing
- social interaction & non-verbal communication
- optimal control
- pollution control

High-School Committees

- Supervisor of the track "Optimization Methods Sciences and Technologies of Information'' at IANUA - High School oh the University of Genova.

PhD Committees

- Member of the Board of the PhD in Mathematics at the University of Salerno.
- Member of the Board of the PhD in Computer Science and Systems Engineering at the University of Genova.

- Member of the Committee for the training activities of the PhD in Computer Science and Systems Engineering at the University of Genova.
- Member of the Thesis Advisory Board of the Ph.D. Program in Computer Science at the University of Pisa.
- Member of the Doctorate Committee of the Eindhoven University of Technology TU/e, The Netherlands.

Projects

- Since 1996: Member of several Italian research projects:
    - PRIN (research projects of national interest, founded by the Italian Ministry of University and Research)
    - ASI (Italian Space Agency)
    - CNR (National Research Council of Italy)
    - FFABR - Italian Found for Basic Research
    - FISA – Italian Found for Applied Sciences

- Since 2000: Coordinator of international and Italian research projects on approximate solution of optimization problems and nonlinear approximation by neural networks.

- 2000-03: Principal Investigator of a NATO Collaborative Linkage Grant.

- Since 2001: Member of several EU projects (H2020, 7th Framework Program) and other international projects:
    - FET Proactive “Entimement”
    - ICT “WhoLoDance”
    - ICT “Dance”
    - ICT FET “Siempre”
    - INTERREG III B Archi-Med “Mildmap”
    - Two joint project Italy-France “Galileo”
    - European Space Agency (ESA)
    - Joint project Georgetown University (USA) – University of Genova
    - Joint project American Academy of Rome-MIT (Massachusetts Inst. of Technology, USA)-ISME.

- Since 2002: Italian coordinator of several international scientific exchange projects between University of Genova and Czech Academy of Sciences, founded by the National Research Council (CNR) of Italy, the Academy of Sciences of the Czech Republic (AVCR), the Italian Foreign Ministry, and the Foreign Ministry of the Czech Republic.

Project referee

- Austrian Science Fund (FWV)
- Czech Academy of Sciences (AVCR)
- Georgia National Science Foundation (GNSF)
- Italian Ministry of Education, University, and Research (MIUR).

Editorial activity in international journals

Area Editor:

- Soft Computing, area "Application of Soft Computing" (currently)

Associate Editor:

- Neural Networks (currently)
- Neurocomputing (currently)
- Neural Processing Letters (currently)
- IEEE Trans. on Neural Networks and Learning Systems (currently and 2006-2012)

Guest Editor:

- IEEE Trans. on Neural Networks and Learning Systems (2024)
- Soft Computing (2021)
- Computers and Operations Research (2009)
- Computational Management Science (2008).

Organizing/Program Committees in international conferences

- Member of the Organizing Committee of the 2019 International Conference on Optimization and Decision Science.
- Chair of the Organizing Committee of the 2008 International Conference on Mathematical Problems in Engineering, Aerospace, and Sciences.
- Member of the Organizing Committee of the 2007 Conference of the Italian Association of Operations Research.
- Area Chair at ICANN 2026
- Member of the Program Committees of 100+ international conferences.

Visiting scientist

Italy:

- IMT – School for Advanced Studies, Lucca.
- University of Trento.
- University of Pisa.
- University of Florence.
- University of Siena.
- University of Salerno.
- IASI (Institute for Systems Analysis and Computer Science) at CNR (National Research Council), Rome.

Other Countries:

- Institute of Computer Science of the Czech Academy of Sciences (Prague, Czech Republic).
- University of Bar-Ilan (Tel Aviv), Israel
- University of Burgundy, France.
- University of Montpellier, France.
- University of Strasbourg, France.
- University Paris Dauphine, France.
- University of Côte d'Azur, France
- University of Seville, Spain.

Ongoing international collaborations

- Academy of Sciences of the Czech Republic, Prague.
- Georgetown University, Washington DC - USA.
- University of Burgundy, France
- EUROMOV Center (Digital Health in Motion) – Montpellier, France.
- University of Vienna, Austria.
- Zhejiang Normal University, Cina
- ESSEC Business School, Cergy-Pontoise, France

Publications

- 200+ research papers in archival journals, book chapters, and international conference proceedings:

  90+ papers in international journals
  24 book chapters/contributions to monographs
  5 book reviews
  80+ paper reviews
  50+ conference proceedings
  80+ conference abstracts

- Co-author of one book (Springer, Communications and Control Engineering Series).
- Co-editor of two books (Springer, LNCS and LNICST)

- Invited speaker and keynote speaker at several international conferences.

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Publications

Books

[B1] R . Zoppoli, M. Sanguineti, G. Gnecco, T. Parisini, "*Neural Approximations for Optimal Control and Decision*". Springer, Communications and Control Engineering Series. Londra, 2019 (eBook), 2020 (Hardcover). ISBN (Hardcover): 978-3-030-29691-9; ISBN (eBook): 978-3-030-29693-3. https://www.springer.com/gp/book/9783030296919.

Edited books

[EB2] W . Senn, M. Sanguineti, A. Saudargiene, I. Tetko, A. E. P. Villa, V. Jirsa, Y. Bengio, Eds., "*Artificial Neural Networks and Machine Learning*". LNCS, vol. 16072. Springer, 2026

[EB1] M . Clayton, M. Passacantando, M. Sanguineti, "*Intelligent Technologies for Interactive Entertainment*". Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering. LNICST, vol. 560. Springer, 2024.

Journals

[R92] F . El Ouardighi, G. Gnecco, E. Khmelnitsky, M. Sanguineti, "Restoration Responsibility in a Dynamic Game of Deforestation, Production, and Pollution Accumulation". *Environmental and Resource Economics*, 89:46, pp. 1-32, 2026 .

[R91] M . Passacantando, G. Gnecco, M. Sanguineti, "Shapley value approximation via machine learning in cooperative games for traffic equilibrium". *Journal of Dynamics and Games*, 2025; doi:10.3934/jdg.2025038, 2025.

[R90] A . Herbon, M. Gaggero, E. Khmelnitsky, M. Sanguineti, "Adaptive dipole-like parameter calibration of complex black-box continuous processes". *Computational Optimization and Applications*, vol. 91, pp. 1309-1338, 2025.

[R89] A . Alessandri, M. Gaggero, M. Sanguineti, "Data-driven performance metrics for neural network learning". *Int. Journal on Adaptive Control Signal Processing*, vol. 39, pp. 2081-2092, 2025.

[R88] M . Li, A. Micheli, Y. G. Wang, S. Pan, P. Lió, G. Gnecco, M. Sanguineti Guest Editorial: "Deep Neural Networks for Graphs: Theory, Models, Algorithms, and Applications". IEEE Trans. on Neural Networks and Learning Systems, vol. 35, pp. 4367-4372, 2024.

[R87] V . Kůrková, M. Sanguineti, "Approximation of Classifiers by Deep Perceptron Networks". *Neural Networks*, vol. 165, pp. 654-661, 2023.

[R86] O . Matthiopoulou, G. Gnecco, M. Sanguineti, D. Mottet, B. Bardy, A. Camurri, "Towards the Automated Analysis of Expressive Gesture Qualities in Full-Body Movement: The Perceived Origin of Movement". *Human-centric Computing and Information Sciences*, 14:54, 2024

[R85] G . Gnecco, Y. Hadas, M. Sanguineti, "A Game-Theoretic Approach for Reliability Evaluation of Public Transportation Transfers with Stochastic Features". *EURO J. on Transportation and Logistics*, vol. 11, DOI:10.1016/j.ejtl.2022.100090, 2022.

[R84] D . Chablat, D. Haribhau Salunkhe, G. Michel, S. Kumar, M. Sanguineti, "An Efficient Combined Local and Global Search Strategy for Optimization of Parallel Kinematic Mechanisms with Joint Limits and Collision Constraints". *Mechanism and Machine Theory*, vol. 173, DOI:doi.org/10.1016/j.mechmachtheory.2022.104796, 2022.

[R83] M . Passacantando, G. Gnecco, Y. Hadas, M. Sanguineti, "Braess' Paradox: A Cooperative Game-Theoretic Point of View". *Networks*, vol. 78, pp. 264-283, 2021

[R82] V . Kůrková, M. Sanguineti, "Correlations of Random Classifiers on Large Data Sets". *Soft Computing*, vol. 25, pp. 12641-12648, 2021.

[R81] M . Sanguineti, E. Tànfani, "Special Issue Optimization for Machine Learning Guest Editorial". *Soft Computing*, vol. 25, pp. 12565-12567, 2021.

[R80] G . Gnecco, Y. Hadas, M. Sanguineti, "Public Transport Transfers Assessment via Transferable Utility Games and Shapley Value Approximation". *Transportmetrica A: Transport Science*, vol. 17, pp. 540-565, 2021.

[R79] K . Kolykhalova, G. Gnecco, M. Sanguineti, G. Volpe, A. Camurri, "Automated Analysis of the Origin of Movement: An Approach Based on Cooperative Games on Graphs". *IEEE Transactions on Human-Machine Systems*, vol. 50, pp. 550-560, 2020.

[R78] E . S. Barjuei, M. M. G. Ardakani, D. G. Caldwell, M. Sanguineti, J. Ortiz, "Optimal Selection of Motors and Transmissions in Back-Support Exoskeleton Applications". *IEEE Transactions on Medical Robotics and Bionics*, vol. 2, pp. 320-330, 2020.

[R77] F . El Ouardighi, K. Kogan, G. Gnecco, and M. Sanguineti, "Transboundary Pollution Control and Environmental Absorption Efficiency Management". *Annals of Operations Research*, vol. 287, pp. 653-681, 2020. DOI:10.1007/s10479-018-2927-7, 2018.

[R76] G . Gnecco, Y. Hadas, M. Sanguineti, "Some Properties of Transportation Network Cooperative Games". *Networks*, vol. 74, pp. 161-173, 2019.

[R75] V . Kůrková, M. Sanguineti, "Classification by Sparse Neural Networks". *IEEE Transactions on Neural Networks and Learning Systems*, vol. 30, pp. 2746-2754, 2019.

[R74] G . Gnecco, M. Sanguineti, "Neural Approximations in Discounted Infinite-Horizon Stochastic Optimal Control Problems". *Engineering Applications of Artificial Intelligence*, vol. 74, pp. 294-302, 2018.

[R73] F . El Ouardighi, G. Gnecco, K. Kogan, M. Sanguineti,"Commitment-Based Equilibrium Environmental Strategies Under Time-Dependent Absorption Efficiency". *Group Decision and Negotiation*, vol. 27, pp. 235-249, 2018.

[R72] Y . Hadas, G. Gnecco, M. Sanguineti, "An Approach to Transportation Network Analysis Via Transferable Utility Games". *Transportation Research Part B: Methodological*, vol. 105, pp. 120-143, 2017.

[R71] L . Boero, M. Cello, G. Gnecco, M. Marchese, F. Patrone, M. Sanguineti, "A Theoretical Analysis of Buffer Occupancy for Intermittently-Connected Networks". *Performance Evaluation*, vol. 115, pp. 108-131, 2017.

[R70] G . Gnecco, A. Bemporad, M. Gori, M. Sanguineti, "LQG Online Learning". *Neural Computation*, vol. 29, pp. 2203-2291, 2017.

[R69] V . Kůrková, M. Sanguineti, "Probabilistic Lower Bounds for Approximation by Shallow Perceptron Networks". *Neural Networks*, vol. 91, pp. 34-41, 2017.

[R68] G . Gnecco, R. Morisi, G. Roth, M. Sanguineti, A.C. Taramasso, "Supervised and Semi-Supervised Classifiers for the Detection of Flood-Prone Areas". *Soft Computing*, vol. 21, pp. 3673-3685, 2017.

[R67] G . Gnecco, M. Sanguineti, "Neural Approximations of the Solutions to a Class of Stochastic Optimal Control Problems". *Journal of NeuroTechnology*, vol 1, pp. 1-16, 2016.

[R66] V . Kůrková, M. Sanguineti, "Model Complexities of Shallow Networks Representing Highly-Varying Functions". *Neurocomputing*, vol. 171, pp. 598-604, 2016.

[R65] G . Gnecco, M. Gori, S. Melacci, M. Sanguineti, "Learning with Mixed Hard/Soft Pointwise Constraints". *IEEE Transactions on Neural Networks and Learning Systems*, vol. 26, pp. 2019-2032, 2015.

[R64] M . Cello, G. Gnecco, M. Marchese, M. Sanguineti, "Narrowing the Search for Optimal Call-Admission Policies via a Nonlinear Stochastic Knapsack Model", *Journal of Optimization Theory and Applications*, vol. 164, pp. 819-841, 2015.

[R63] G . Gnecco, M. Gori, S. Melacci, M. Sanguineti, "Foundations of Support Constraint Machines". *Neural Computation*, vol. 27, pp. 388-480, 2015.

[R62] M . Gaggero, G. Gnecco, M. Sanguineti "Approximate Dynamic Programming for Stochastic N-Stage Optimization with Application to Optimal Consumption Under Uncertainty". *Computational Optimization and Applications*, vol. 58, pp. 31-85, 2014.

[R61] M . Cello, G. Gnecco, M. Marchese, M. Sanguineti, "Evaluation of the Average Packet Delivery Delay in Highly-Disrupted Networks: The DTN and IP-like Protocol Cases", *IEEE Communications Letters*, vol. 18, pp. 519-522, 2014.

[R60] G . Gnecco, D, Glowinski, A. Camurri, M. Sanguineti, "On the Detection of the Level of Attention in an Orchestra Through Head Movements". *International Journal of Arts and Technology*, vol. 7, pp. 316-338, 2014.

[R59] G . Gnecco, M. Gori, S. Melacci, M. Sanguineti, "A Theoretical Framework for Supervised Learning from Regions". *Neurocomputing*, vol. 129, pp. 25-32, 2014.

[R58] A . Camurri, F. Dardard, S. Ghisio, D. Glowinski, G. Gnecco, M. Sanguineti, "Exploiting the Shapley Value in the Estimation of the Position of a Point of Interest for a Group of Individuals", *Procedia - Social and Behavioral Sciences* (Proc. 2013 AIRO Winter Conf., Champoluc, 28 gennaio-1 febbraio 2013), vol. 108, pp. 249-259, 2014.

[R57] M . Cello, G. Gnecco, M. Marchese, M. Sanguineti, "Optimality Conditions for Coordinate-Convex Policies in CAC with Nonlinear Feasibility Boundaries", *IEEE/ACM Transactions on Networking*, vol. 21, pp. 1363-1377, 2013.

[R56] M . Gaggero, G. Gnecco, M. Sanguineti, "Dynamic Programming and Value-Function Approximation in Sequential Decision Problems: Error Analysis and Numerical Results". *Journal of Optimization Theory and Applications*, vol. 156, pp. 380-416, 2013.

[R55] M . Degiorgis, G. Gnecco, S. Gorni, G. Roth, M. Sanguineti, A.C. Taramasso, "Flood Hazard Assessment via Threshold Binary Classifiers: Case Study of the Tanaro Basin", *Irrigation and Drainage*, vol. 62, pp. 1-10, 2013.

[R54] G . Gnecco, M. Gori, M. Sanguineti, "Learning with Boundary Conditions", *Neural Computation*, vol. 25, pp. 1029-1106, 2012.

[R53] G . Gnecco, M. Sanguineti, "New Insights into Witsenhausen's Counterexample", *Optimization Letters*, vol. 6, pp. 1425-1446, 2012.

[R52] M . Degiorgis, G. Gnecco, S. Gorni, G. Roth, M. Sanguineti, A.C. Taramasso, "Classifiers for the Detection of Flood Prone Areas Using Remote Sensed Elevation Data", *Journal of Hydrology*, vol. 470-471, pp. 302-315, 2012.

[R51] G . Gnecco, M. Sanguineti, M. Gaggero, "Suboptimal Solutions to Team Optimization Problems with Stochastic Information Structure". *SIAM Journal on Optimization*, vol. 22, pp. 212-243, 2012.

[R50] M . Cello, G. Gnecco, M. Marchese, M. Sanguineti, "A Model of Buffer Occupancy for ICNs", *IEEE Communications Letters*, vol. 16, pp. 862-865, 2012.

[R49] P . C. Kainen, V. Kůrková, M. Sanguineti, "Dependence of Computational Models on Input Dimension: Tractability of Approximation and Optimization Tasks". *IEEE Transactions on Information Theory*, vol. 58, pp. 1203-1214, 2012.

[R48] G . Gnecco, V. Kůrková, M. Sanguineti, "Accuracy of Approximations of Solutions to Fredholm Equations by Kernel Methods", *Applied Mathematics and Computation*, vol. 218. pp. 7481-7497, 2012.

[R47] G . Gnecco, V. Kůrková, M. Sanguineti, "Can Dictionary-Based Computational Models Outperform the Best Linear Ones?", *Neural Networks*, vol. 24, pp. 881-887, 2011.

[R46] M . Cello, G. Gnecco, M. Marchese, and M. Sanguineti, "CAC with Nonlinearly-Constrained Feasibility Regions", *IEEE Communications Letters*, vol. 15, pp. 467-469, 2011.

[R45] G . Gnecco, M. Sanguineti, "On a Variational Norm Tailored to Variable-Basis Approximation Schemes", *IEEE Transactions on Information Theory*, vol. 57, pp. 549-558, 2011.

[R44] G . Gnecco, M. Sanguineti, "Team Optimization Problems with Lipschitz Continuous Strategies", *Optimization Letters*, vol. 5, pp. 333-346, 2011.

[R43] G . Gnecco, V. Kůrková, M. Sanguineti, "Some Comparisons of Complexity in Dictionary-Based and Linear Computational Models", *Neural Networks*, vol. 24, pp. 171-182, 2011.

[R42] G . Gnecco, M. Sanguineti, "Suboptimal Solutions to Dynamic Optimization Problems via Approximations of the Policy Functions", *Journal of Optimization Theory and Applications*, vol. 146, pp. 764-794, 2010.

[R41] A . Alessandri, C. Cervellera, D. Macciò, M. Sanguineti, "Optimization Based on Quasi-Monte Carlo Sampling to Design State Estimators for Nonlinear Systems". *Optimization*, vol. 59, pp. 963-984, 2010.

[R40] G . Gnecco, M. Sanguineti, "On Spectral Windows in Supervised Learning From Data", *Information Processing Letters*, vol. 110, pp. 1031-1036, 2010.

[R39] A . Alessandri, G. Gnecco, M. Sanguineti, "Minimizing Sequences for a Family of Functional Optimal Estimation Problems", *Journal of Optimization Theory and Applications*, vol. 147, pp. 243-262, 2010.

[R38] G . Gnecco, M. Sanguineti, "Information Complexity of Infinite-Dimensional Optimization Problems and their Approximation Schemes". *Mathematics in Engineering, Science and Aerospace*, vol. 1, pp. 303-317, 2010.

[R37] G . Gnecco, M. Sanguineti, "Editorial for the Special Issue: Mathematical Problems in Engineering, Aerospace, and Sciences". *Applied Mathematical Sciences*, vol. 4, n. 73, pp. 3621-3624, 2010.

[R36] G . Gnecco, M. Sanguineti, "Error Bounds for Suboptimal Solutions to Kernel Principal Component Analysis", *Optimization Letters*, vol. 4, pp. 197-210, 2010.

[R35] G . Gnecco, M. Sanguineti, "Regularization Techniques and Suboptimal Solutions to Optimization Problems in Learning from Data", *Neural Computation*, vol. 22, pp. 793-829, 2010.

[R34] G . Gnecco, M. Sanguineti, "Estimates of Variation with Respect to a Set and Applications to Optimization Problems", *Journal of Optimization Theory and Applications*, vol. 145, pp. 53-75, 2010.

[R33] E . Messina, M. Sanguineti, "Editorial for the Special Issue: Operations Research and Data Mining in Biological Systems". *Computers and Operations Research*, vol. 37, pp. 1359-1360, 2010.

[R32] M . Baglietto, C. Cervellera, M. Sanguineti, R. Zoppoli, "Management of Water Resources Systems in the Presence of Uncertainties by Nonlinear Approximators and Deterministic Sampling Techniques", *Computational Optimization and Applications*, vol. 47, pp. 349-376, 2010.

[R31] S . Giulini, M. Sanguineti,"Approximation Schemes for Functional Optimization Problems". *Journal of Optimization Theory and Applications*, vol. 140, pp. 33-54, 2009.

[R30] M . Baglietto, M. Sanguineti, R. Zoppoli, "The Extended Ritz Method for Functional Optimization: Overview and Applications to Single-Person and Team Optimal Decision Problems". *Optimization Methods and Software*, vol. 24, pp. 15-43, 2009.

[R29] P . C. Kainen, V. Kůrková, M. Sanguineti, "Complexity of Gaussian Radial-Basis Networks Approximating Smooth Functions". *Journal of Complexity*, vol. 25, pp. 63-74, 2009.

[R28] G . Gnecco, M. Sanguineti, "The Weight-Decay Technique in Learning from Data: An Optimization Point of View", *Computational Management Science*, vol. 6, pp. 53-79, 2009.

[R27] E . Kundakcioglu, M. Sanguineti, T. Trafalis, "Editorial for the Special Issue: Optimization in Learning from Data". *Computational Management Science*, vol. 6, pp. 1-3, 2009.

[R26] A . Alessandri, M. Cuneo, M. Sanguineti, "Optimization of Connectionistic Models with Exponentially Bounded Error", *International Journal of Computational Intelligence in Control*, vol. 1, pp. 113-122, 2009.

[R25] G . Gnecco, M. Sanguineti, "Accuracy of Suboptimal Solutions to Kernel Principal Component Analysis". *Computational Optimization and Applications*, vol. 42, pp. 265-287, 2009.

[R24] V . Kůrková, M. Sanguineti, "Geometric Upper Bounds on Rates of Variable-Basis Approximation". *IEEE Transactions on Information Theory*, vol. 54, pp. 5681-5688, 2008.

[R23] V . Kůrková, M. Sanguineti, "Approximate Minimization of the Regularized Expected Error Over Kernel Models". *Mathematics of Operations Research*, vol. 33, pp. 747-756, 2008.

[R22] G . Gnecco, M. Sanguineti, "Approximation Error Bounds via Rademacher Complexity", *Applied Mathematical Sciences*, vol. 2, pp. 153-176, 2008.

[R21] G . Gnecco, M. Sanguineti, "Value and Policy Function Approximations in Infinite-Horizon Optimization Problems", *Journal of Dynamical Systems and Geometric Theories*, vol. 6, pp. 123-147, 2008.

[R20] M . Sanguineti, "Universal Approximation by Ridge Computational Models: A Survey". *The Open Applied Mathematics Journal*, vol. 2, pp. 31-58, 2008.

[R19] G . Gnecco, M. Sanguineti, "Estimates of the Approximation Error via Rademacher Complexity: Learning Vector-Valued Functions". *Journal of Inequalities and Applications*, vol. 2008, article ID 640758, 16 pages, 2008.

[R18] A . Alessandri, G. Gnecco, M. Sanguineti, "Computationally Efficient Approximation Schemes for Functional Optimization", *International Journal of Computer Research*, vol. 17, pp. 153-189, 2008.

[R17] A . Alessandri, M. Sanguineti, "Input-Output Stability for Optimal Estimation Problems", *International Mathematical Forum*, vol. 2, pp. 593-617, 2007.

[R16] A . Alessandri, M. Sanguineti, "Connections Between L_p Stability and Asymptotic Stability of Nonlinear Switched Systems". *Nonlinear Analysis: Hybrid Systems*, vol. 1, pp. 501-509, 2007.

[R15] A . Alessandri, C. Cervellera, M. Sanguineti, "Design of Asymptotic Estimators: An Approach Based on Neural Networks and Nonlinear Programming". *IEEE Transactions on Neural Networks*, vol. 18, pp. 86-96, 2007.

[R14] A . Alessandri, C. Cervellera, M. Sanguineti, "Functional Optimal Estimation Problems and Their Approximate Solution by Nonlinear Approximation Schemes". *Journal of Optimization Theory and Applications*, vol. 134, pp. 445-466, 2007.

[R13] V . Kůrková, M. Sanguineti "Estimates of Covering Numbers of Convex Sets with Slowly Decaying Orthogonal Subsets". *Discrete Applied Mathematics*, vol. 155, pp. 1930-1942, 2007.

[R12] A . Alessandri, M. Cuneo, S. Pagnan, M. Sanguineti, "A Recursive Algorithm for Nonlinear Least-Squares Problems". *Computational Optimization and Applications*, vol. 38, pp. 195-216, 2007.

[R11] A . Alessandri, M. Sanguineti, "Optimization of Approximating Networks for Optimal Fault Diagnosis". *Optimization Methods and Software*, vol. 20, pp. 241-266, 2005.

[R10] V . Kůrková, M. Sanguineti, "Error Estimates for Approximate Optimization by the Extended Ritz Method". *SIAM Journal on Optimization*, vol. 15, pp. 461-487, 2005.

[R9] V . Kůrková, M. Sanguineti, "Learning with Generalization Capability by Kernel Methods of Bounded Complexity". *Journal of Complexity*, vol. 21, pp. 350-367, 2005.

[R8] P . C. Kainen, V. Kůrková, M. Sanguineti, "Rates of Approximate Minimization of Error Functionals over Boolean Variable-Basis Functions". *Journal of Mathematical Modelling and Algorithms*, vol. 4, pp. 355-368, 2005.

[R7] K . Hlaváčková-Schindler, M. Sanguineti, "Bounds on the Complexity of Neural-Network Models and Comparison with Linear Methods". *International Journal of Adaptive Control and Signal Processing*, vol. 17, pp. 179-194, 2003.

[R6] P . C. Kainen, V. Kůrková, M. Sanguineti, "Minimization of Error Functionals Over Variable-Basis Functions". *SIAM Journal on Optimization*, vol. 14, pp. 732-742, 2003.

[R5] V . Kůrková, M. Sanguineti, "Comparison of Worst-Case Errors in Linear and Neural-Network Approximation". *IEEE Transactions on Information Theory*, vol. 48, pp. 264-275, 2002.

[R4] R . Zoppoli, M. Sanguineti, T. Parisini, "Approximating Networks and Extended Ritz Method for the Solution of Functional Optimization Problems". *Journal of Optimization Theory and Applications*, vol. 112, pp. 403-440, 2002.

[R3] A . Alessandri, M. Sanguineti, M. Maggiore, "Optimization-Based Learning with Bounded Error for Feedforward Neural Networks". *IEEE Transactions on Neural Networks*, vol. 13, pp. 261-273, 2002.

[R2] V . Kůrková, M. Sanguineti, "Bounds on Rates of Variable-Basis and Neural-Network Approximation". *IEEE Transactions on Information Theory*, vol. 47, pp. 2659-2665, 2001.

[R1] T . Parisini, M. Sanguineti, R. Zoppoli, "Nonlinear Stabilization by Receding-Horizon Neural Regulators". *International Journal of Control*, vol. 70, pp. 341-362, 1998.

Book chapters and lecture notes

[CL27] F . El Ouardighi, K. Kogan, G. Gnecco, M. Sanguineti,"Transboundary Pollution Control and Environmental Absorption Efficiency Management". In "Essays on Pollution Control in Economics and Management Science - An Interdisciplinary View". F. El Ouardighi, Ed.. Lecture Notes in Operations Research, Springer, 2025, pp. 55-92.

[CL26] V . Kůrková, M. Sanguineti, "Classification of Large Data Sets by Neural Networks: A Probabilistic Viewpoint". *Lecture Notes in Computer Science* (Proc. ICANN 2025) 16068, pp. 480C486, 2026.

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