

1 CURRICULUM VITAE

PERSONAL INFORMATION	
SURNAME	SOTIRIS
NAME	KOTSIANTIS
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TEL.	2610996769
DBLP	https://dblp.org/pid/167/4988.html
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CURRENT POSITION(S)

2024 -	Associate Professor, Department of Mathematics, University of Patras, Greece
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PREVIOUS POSITION(S)

2019 -2023	Assistant Professor, Department of Mathematics, University of Patras, Greece
2012 -2018	Lecturer, Department of Mathematics, University of Patras, Greece

EDUCATION

2002 -2005	PhD thesis on "Ensembles of classifiers for increasing the accuracy of machine learning and data mining algorithms", University of Patras, Greece.
2000 -2001	MSc on "Computational Mathematics", Department of Mathematics, University of Patras, Greece
1995 -1999	Batchelor, Department of Mathematics, University of Patras, Greece

JOURNAL PUBLICATIONS

Stamatis Karlos, Christos K. Aridas, Vasileios G. Kanas and Sotiris Kotsiantis, Classification of acoustical signals by combining Active Learning strategies with single view Semi-supervised Learning schemes, Neural Computing and Applications, 2023, 35(1): 3-20, <https://doi.org/10.1007/s00521-021-05749-6>

Charalampos M. Liapis; Aikaterini Karanikola; Sotiris Kotsiantis, A Multivariate Ensemble Learning Method for Medium-Term Energy Forecasting, Neural Computing and Applications, 2023, <https://doi.org/10.1007/s00521-023-08777-6>

Panos Syriopoulos, Sotiris Kotsiantis, Nektarios Kalampalikis and Michael Vrahatis (2023), kNN Classification: a review, Annals of Mathematics and Artificial Intelligence, <https://doi.org/10.1007/s10472023-09882-x>

Emmanuel Pintelas, Ioannis E. Livieris, Sotiris Kotsiantis and Panagiotis Pintelas, A Multi-View-CNN Framework for Deep Representation Learning in Image Classification, Computer Vision and Image Understanding, 2023, Volume 232, <https://doi.org/10.1016/j.cviu.2023.103687>

Linardatos, P., Papastefanopoulos, V., Panagiotakopoulos, T. et al. CO2 concentration forecasting in smart cities using a hybrid ARIMA-TFT model on multivariate time series IoT data. Scientific Reports 13, 17266 (2023). <https://doi.org/10.1038/s41598-023-42346-0>

Athanasios Salamanis, George A. Gravvanis, Sotiris Kotsiantis and Konstantinos M. Giannoutakis, A generic sparse regression imputation method for time series and tabular data, Knowledge-Based Systems, 2023, Volume 279, <https://doi.org/10.1016/j.knosys.2023.110965>

Athanasios Salamanis, George A. Gravvanis, Sotiris Kotsiantis, Michael Vrahatis, Novel Sparse Feature Regression Method for Traffic Forecasting, *International Journal on Artificial Intelligence Tools*, 2023, 32(1), <https://doi.org/10.1142/S0218213023500082>

Charalampos Liapis, Aikaterini Karanikola, Sotiris Kotsiantis, Investigating Deep Stock Market Forecasting with Sentiment Analysis, *Entropy* 2023, 25(2), 219; <https://doi.org/10.3390/e25020219>

Andreas F. Gkontzis, Sotiris Kotsiantis, Chris T. Panagiotakopoulos and Vassilios S. Verykios, A Predictive Analytics Framework as a Countermeasure for Attrition of Students, *Interactive Learning Environments*, 2022, 30 (6), 1028-1043, <https://doi.org/10.1080/10494820.2019.1709209>

Georgios Kostopoulos, Theodor Panagiotakopoulos, Sotiris Kotsiantis, Christos Pierrakeas, and Achilles Kameas, Interpretable Models for Early Prediction of Certification in MOOCs: A Case Study on a MOOC for Smart City Professionals, *IEEE Access* 9: 165881-165891 (2021), <https://doi.org/10.1109/access.2021.3134787>

Tsiakmaki, M., Kostopoulos, G., Kotsiantis, S., & Ragos, O. (2021). Fuzzy-based Active Learning for Predicting Student Academic Performance using autoML: a step-wise approach, *Journal of Computing in Higher Education (JCHE)*, 33(3): 635-667 (2021), <https://doi.org/10.1007/s12528-021-09279-x>

Emmanuel Pintelas, Meletis Liaskos, Ioannis Livieris, Sotiris Kotsiantis, Panagiotis Pintelas, A novel explainable image classification framework: case study on Skin cancer and Plant disease prediction, *Neural Computing and Applications*, 33(22): 15171-15189 (2021), <https://doi.org/10.1007/s00521-021-06141-0>

Athanasios Salamanis, Anastasia-Dimitra Lipitakis, Sotiris Kotsiantis, Dimosthenis Anagnostopoulos, George A. Gravvanis, An Adaptive Cluster-based Sparse Autoregressive Model for Large-Scale Multi-Step Traffic Forecasting, *Expert Systems with Applications*, Volume 180, 15 October 2021, 115093, <https://doi.org/10.1016/j.eswa.2021.115093>

Charalampos M Liapis, Aikaterini Karanikola, Sotiris Kotsiantis, A Multi-Method Survey on the Use of Sentiment Analysis in Multivariate Financial Time Series Forecasting, *Entropy* 2021, 23(12), 1603; <https://doi.org/10.3390/e23121603>

Papastefanopoulos, V., Linardatos, P., Kotsiantis, S., Unsupervised Outlier Detection: A Meta-Learning Algorithm based on Feature Selection, *Electronics* 2021, 10(18), 2236; <https://doi.org/10.3390/electronics10182236>

Theodor Panagiotakopoulos, Sotiris Kotsiantis, Georgios Kostopoulos, Omiros Iatrellis, Achilles Kameas, Early Dropout Prediction in MOOCs Through Supervised Learning and Hyperparameter Optimization, *Electronics* 2021, 10(14), 1701; <https://doi.org/10.3390/electronics10141701>

Linardatos, P.; Papastefanopoulos, V.; Kotsiantis, S. Explainable AI: A Review of Machine Learning Interpretability Methods. *Entropy* 2021, 23(18), <https://doi.org/10.3390/e23010018>

Nikos Fazakis, Georgios Kostopoulos, Sotiris Kotsiantis and Iosif Mporas, Iterative Robust Semi-Supervised Missing Data Imputation, 2020, *IEEE Access* 8, 90555-90569, <https://doi.org/10.1109/access.2020.2994033>

Stamatis Karlos, Georgios Kostopoulos, Sotiris Kotsiantis, Predicting and interpreting students' grades in distance higher education through a semi-regression method, *Applied Sciences*, 2020, 10(23), 8413; <https://doi.org/10.3390/app10238413>

Vangjel Kazllarof, Stamatis Karlos, Sotiris Kotsiantis, Investigation of combining Logitboost(M5P) under Active Learning classification tasks, *Informatics*, 2020, 7, 50, <https://doi.org/10.3390/informatics7040050>

Tsiakmaki, M., Kostopoulos, G., Kotsiantis, S., & Ragos, O. (2020). Transfer Learning from Deep Neural Networks for Predicting Student Performance. *Applied Sciences*, 10(6), 2145, <https://doi.org/10.3390/app10062145>

Christos K. Aridas, Stamatis Karlos, Vasileios G. Kanas, Nikos Fazakis and Sotiris Kotsiantis, Uncertainty based under-sampling for learning Naive Bayes classifiers under imbalanced data sets, *IEEE Access*, Vol.8, 2122 – 2133, 2020, <https://doi.org/10.1109/access.2019.2961784>

Vasilis Papastefanopoulos, Pantelis Linardatos, Sotiris Kotsiantis, COVID-19: A comparison of time series methods for active cases forecasting, *Applied Sciences*, 2020, 10 (11), 3880, <https://doi.org/10.3390/app10113880>

Konstantinos Lavidas, Anthi Achriani; Stavros Athanassopoulos, Ioannis Messinis, Sotiris Kotsiantis, University Students' intention to use search engines for research purposes: a structural equation modeling approach, *Education and Information Technologies*, 25(4): 2463-2479 (2020), <https://doi.org/10.1007/s10639-019-10071-9>

Maria Tsiakmaki, Georgios Kostopoulos, Sotiris Kotsiantis, Omiros Ragos, Implementing AutoML in Educational Data Mining for Prediction Tasks, *Applied Sciences*, 2020, 10(1), 90; <https://doi.org/10.3390/app10010090>

Nikos Fazakis, Georgios Kostopoulos, Stamatis Karlos, Sotiris Kotsiantis and Kyriakos Sgarbas, An Active Learning Ensemble Method for Regression Tasks, *Intelligent Data Analysis*, 2020, 24 (3), 607-623, <https://doi.org/10.3233/ida-194608>

Nikos Fazakis, Stamatis Karlos, Sotiris Kotsiantis, Kyriakos Sgarbas, A multi-scheme semi-supervised regression approach, *Pattern Recognition Letters* 125: 758-765 (2019), <https://doi.org/10.1016/j.patrec.2019.07.022>

Vangjel Kazllarof, S. Karlos, Sotiris Kotsiantis, Active Learning Rotation Forest for Multiclass Classification, *Computational Intelligence* 35(4): 891-918 (2019), <https://doi.org/10.1111/coin.12217>

Georgios Kostopoulos, Stamatis Karlos, and Sotiris Kotsiantis, Multi-view Learning for Early Prognosis of Academic Performance: A Case Study, *IEEE Transactions on Learning Technologies*, 12(2): 212-224 (2019). <https://doi.org/10.1109/tlt.2019.2911581>

Stamatios-Aggelos Alexandropoulos, Sotiris Kotsiantis and Michael Vrahatis, Data Preprocessing in Predictive Data Mining, *Knowledge Engineering Review*, 2019, vol. 34, <https://doi.org/10.1017/s026988891800036x>

Kostopoulos, G., Kotsiantis, S., Fazakis, N., Koutsonikos, G., & Pierrakeas, C. (2019). A Semi-Supervised Regression Algorithm for Grade Prediction of Students in Distance Learning Courses. *International Journal on Artificial Intelligence Tools*, 28(04), 1940001, <https://doi.org/10.1142/s0218213019400013>

Christos Aridas, Sotiris Kotsiantis and Michael Vrahatis, Hybrid local boosting utilizing unlabeled data in classification tasks, *Evolving Systems*, 2019, Volume 10, Issue 1, pp. 51-61, <https://doi.org/10.1007/s12530-017-9203-y>

Nikos Fazakis, Vasileios G. Kanas, Christos K. Aridas, Stamatis Karlos and Sotiris Kotsiantis, Combination of Active Learning and Semi-Supervised Learning under a Self-Training Scheme, *Entropy* 2019, 21(10), 988; <https://doi.org/10.3390/e21100988>

Georgios Kostopoulos, S. Karlos, Sotiris Kotsiantis, O. Ragos, Semi-Supervised Regression: A recent review, *Journal of Intelligent and Fuzzy Systems* 35(2): 1483-1500 (2018), <https://doi.org/10.3233/jifs169689>

Georgios Kostopoulos, I. Livieris, Sotiris Kotsiantis, V. Tampakas, CST-Voting: A semi-supervised ensemble method for classification problems, *Journal of Intelligent and Fuzzy Systems* 35(1): 99-109 (2018), <https://doi.org/10.3233/jifs-169571>

N. Fazakis, S. Karlos, S. Kotsiantis and K. Sgarbas, Self-trained Rotation Forest for Semi-Supervised Learning, *Journal of Intelligent and Fuzzy Systems*, 2017, 32(1): 711-722, <https://doi.org/10.3233/jifs152641>

Stamatis Karlos, Nikos Fazakis, Angeliki-Panagiota Panagopoulou, Sotiris Kotsiantis, Kyrgiakos Sgarbas, Locally Application of Naive Bayes for Self-Training, *Evolving Systems*, March 2017, Volume 8, Issue 1, pp. 1-16, <https://doi.org/10.1007/s12530-016-9159-3>

S. Karlos, N. Fazakis, S. Kotsiantis and K. Sgarbas, Self-trained Stacking Model for Semi-Supervised Learning, *International Journal on Artificial Intelligence Tools*, 2017, 26, <https://doi.org/10.1142/S0218213017500014>

S. Karlos, N. Fazakis, S. Kotsiantis, K. Sgarbas, A Semisupervised Cascade Classification Algorithm,

Applied Computational Intelligence and Soft Computing, 2016,
<http://dx.doi.org/10.1155/2016/5919717>

Kotsiantis, S., Tselios, N., Filippidi, A., & Komis, V. (2013). Using Learning Analytics to identify successful learners in a blended learning course. *Journal of Technology Enhanced Learning* (special issue on Learning Analytics), 5(2), 133-150. <https://doi.org/10.1504/ijtel.2013.059088>

D. Kanellopoulos, S. Kotsiantis, Evaluating and recommending Greek newspaper web sites using clustering, *Program: electronic library and information systems* (Renamed to: *Data Technologies and Applications*), Volume 46, issue 1, 2012, pp. 71 - 91. <https://doi.org/10.1108/00330331211204575>

S. Kotsiantis, K. Patriarcheas, M. Xenos, A combinational incremental ensemble of classifiers as a technique for predicting students' performance in distance education, *Knowledge-Based Systems*, Volume 23, Issue 6, August 2010, Pages 529-535. <https://doi.org/10.1016/j.knosys.2010.03.010>

S. Kotsiantis, I. Zaharakis, P. Pintelas, *Machine Learning: a Review of Classification and Combining Techniques*, *Artificial Intelligence Review*, 26(3):159-190, 2006. Springer. <https://doi.org/10.1007/s10462007-9052-3>

S. Kotsiantis, C. Pierrakeas, P. Pintelas, Predicting Students' Performance in Distance Learning Using Machine Learning Techniques, *Applied Artificial Intelligence (AAI)*, Volume 18, Number 5 / May-June 2004, pp. 411 - 426. <https://doi.org/10.1080/08839510490442058>

S. Kotsiantis, P. Pintelas, A Decision Support Prototype Tool for Predicting Student Performance in an ODL Environment, *International Journal of Interactive Technology and Smart Education (ITSE)*, No 4, 2004, pp. 253-263. <https://doi.org/10.1108/17415650480000027>

MEMBERSHIPS & REVIEWING ACTIVITIES

2023 -	Associate Editor, Artificial Intelligence Tools
2023 -	Associate Editor, Intelligent Decision Technologies
2021	<i>Special issue co-organizer in Journal IEEE Transactions on Fuzzy Systems, Vol1, 2021</i>
2020	Special issue co-organizer in <i>Journal of Evolutionary Intelligence</i> , Vol. 13 (2), 2020
2019	Special issue co-organizer in <i>Journal of Intelligent Data Analysis</i> 23 (2019) S1–S2
2012	Reviewer: <i>Pattern Recognition Journal</i> , <i>IEEE Transactions on Signal Processing</i> , <i>IEEE Transactions on Cybernetics</i> , <i>Pattern Analysis and Machine Intelligence Journal</i> , <i>International Journal of Information Technology & Decision Making</i> , <i>International Journal of Intelligent Systems in Accounting</i> , <i>Journal of Mathematical Problems in Engineering</i> , <i>Journal of Computational Science</i> , <i>The Computer Journal</i> , <i>Entropy Journal</i> , <i>Science and Technology Education</i> , <i>Neural Computing and Applications</i> , <i>IEEE Transactions on Systems, Man, and Cybernetics--Part B: Cybernetics</i> , <i>Journal of Data Mining and Knowledge Discovery</i> , <i>IEEE Transactions on Information Technology in Biomedicine</i> , <i>IET Intelligent Transport Systems</i> , <i>BMC Medical Informatics and Decision Making</i> , <i>Journal of Applied Mathematics</i> , <i>Knowledge-Based Systems</i> , <i>Computational Intelligence Systems</i> , <i>Information Processing Letters</i> , <i>Neurocomputing</i> , <i>International Journal of Systems Science</i> , <i>International Journal of Metaheuristics</i> , <i>Computer and Information Sciences</i> , <i>Journal of Intelligent and Fuzzy Systems</i> , <i>Wiley Encyclopedia of Operations Research and Management Science</i> , <i>Engineering Applications of Artificial Intelligence</i> , <i>Computational and Mathematical Organization Theory</i> , <i>Future Generation Computer Systems</i> , <i>Computational Intelligence and Neuroscience</i> , <i>IEEE Transactions on Knowledge and Data Engineering</i> , <i>Landscape and Urban Planning</i> , <i>Evolving Systems</i> , <i>Sensors</i> , <i>Journal of Engineering</i> , <i>Communications in Statistics – Theory and Methods</i> ,

2012-	Advances in Artificial Intelligence, IEEE Transactions on Learning Technologies, International Journal of Bio-Inspired Computation, International Journal of PLOS ONE, Machine Learning and Knowledge Extraction, Journal of Pattern Recognition and Artificial Intelligence, Informatica, Statistical Methods in Medical Research, Industrial Management & Data Systems, International Journal on Information Technologies and Security, Applied Sciences, Computer Networks, IEEE Transactions on Fuzzy Systems, Annual Reviews in Control, International Journal of Web Engineering and Technology, International Journal of Computing Science and Mathematics, Computer Methods and Programs in Biomedicine, Journal of Educational Data Mining (JEDM), Data Science, ICT Express, Big Data and Cognitive Computing, Soft Computing, Journal of AI and Data Mining, Neural Processing Letters, Research in Higher Education Journal, Communications in Statistics - Simulation and Computation, Scientific Reports, Remote Sensing, Measurement, Information and Learning Sciences, SN Applied Sciences, Signal Processing: Image Communication, Open Computer Science, British Journal of Educational Technology, Information Processing and Management, Mathematics, International Journal on Information Security and Applications, , AI and Ethics, Machine Learning with Applications, Entertainment Computing, Automatika,
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SUPERVISION OF GRADUATE STUDENTS & POSTDOCTORAL FELLOWS

2012 -	Number of completed PhD Students: 2 Number of supervised PhD Students: 4 Number of completed MSc Students: 86
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FELLOWSHIPS and AWARDS

2020 - 2023	List of 2% of the World's Top Scientists for 2020, 2021, 2022, 2023. Elsevier Scientific Publishing House. https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw
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RESEARCH GRANTS

Project Title	Funding source	Period	Role
European Software Skills Alliance - ESSA	ERASMUS+/KA2	2022-24	Researcher
GoodDEEDS - Digital Energy Efficiency Designers	ERASMUS+/KA2	2022	Researcher

GRANT APPLICATIONS AS PI

Project Title	Funding source	Submission date	Role
Prototype algorithms combining semisupervised and active machine learning and their applications	Supporting researchers with an emphasis on young researchers, ELIDEK	2/2018-6/2019	PI

2 SCIENTIFIC ACHIEVEMENTS

1. Research monographs

- S. Kotsiantis, A Hybrid Decision Tree Classifier, *Journal of Intelligent & Fuzzy Systems*, 26 (2014) 327– 336, <https://doi.org/10.3233/ifs-120741>
- S. Kotsiantis, Bagging and Boosting variants for handling classifications problems: A survey, *The Knowledge Engineering Review*, *The Knowledge Engineering Review*, volume 29, issue 01, pp. 78-100, 2014, <https://doi.org/10.1017/s0269888913000313>
- S. Kotsiantis, Integrating Global and Local Application of Random Subspace Ensemble, *Journal of Intelligent and Fuzzy Systems*, Volume 26, Number 2 / 2014, Pages 731-739, <https://doi.org/10.3233/ifs-120763>
- S. Kotsiantis, Integrating Global and Local Application of Naive Bayes Classifier, *International Arab Journal of Information Technology (IAJIT)*, 11(3): 300-307 (2014), https://doi.org/10.1007/978-3642-32063-7_6
- S. Kotsiantis, Increasing the Accuracy of Incremental Naïve Bayes Classifier Using Instance Based Learning, *International Journal of Control, Automation, and Systems*, vol. 11, no. 1, pp.159-166, 2013, <https://doi.org/10.1007/s12555-011-0099-1>
- S. Kotsiantis, Decision Trees: A Recent Overview, *Artificial Intelligence Review*, (2013) 39: 261–283. <https://doi.org/10.1007/s10462-011-9272-4>
- S. Kotsiantis, Use of Machine Learning Techniques for Educational Proposes: A decision support system for forecasting students' grades, *Artificial Intelligence Review*, Volume 37 / 2012, 331-344. <https://doi.org/10.1007/s10462-011-9234-x>
- S. Kotsiantis, Integrating Global and Local Voting of Classifiers, *Cybernetics and Systems: An International Journal*, Volume 43, Issue 5, 2012, pages 398-409, <https://doi.org/10.1080/01969722.2012.688684>
- S. Kotsiantis, Combining Bagging, Boosting, Rotation Forest and Random Subspace Methods, *Artificial Intelligence Review*, Volume 35 / 2011, 223-240. <https://doi.org/10.1007/s10462-0109192-8>
- S. Kotsiantis, Cascade Generalization with Reweighting Data for Handling Imbalanced Problems, *The Computer Journal* (2011) 54(9): 1547-1559, <https://doi.org/10.1093/comjnl/bxr016>
- S. Kotsiantis, An Incremental Ensemble of Classifiers, *Artificial Intelligence Review*, Volume 36, Number 4 / December 2011, pp. 249-266. <https://doi.org/10.1007/s10462-011-9211-4>
- S. Kotsiantis, Handling Imbalanced Data Sets with a Modification of Decorate Algorithm, *International Journal of Computer Applications in Technology (IJCAT)*, Vol. 33, Nos. 2/3, 2008, pp.9198. <https://doi.org/10.1504/ijcat.2008.021931>

2. Google Scholar Citations

