Sotirios K. Tasoulis.

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Current Status

2019 – · · · ·   🔖   **Assistant Professor,** Department of Computer Science and Biomedical Informatics, School of Sciences, University of Thessaly, Greece.

Previous Academic Position

2017 – 2019   🔖   **Senior Post-Doctoral Researcher** Department of Computer Science and Biomedical Informatics, School of Sciences, University of Thessaly, Greece.

2015 – 2017   🔖   **Lecturer (Assistant Professor)** Department of Applied Mathematics, Faculty of Engineering and Technology, Liverpool John Moores University, UK.
Member of Liverpool Centre for Data Science.

2013 – 2015   🔖   **Post Doctoral Researcher** Department of Computer Science/Helsinki Institute for Information Technology HIIT, University of Helsinki, Finland.
title: *Knowledge Discovery in Big Data..*

Education

2013   🔖   **Ph.D.**, Department of Computer Science and Biomedical Informatics, University of Thessaly, Greece
Thesis title: *Knowledge Discovery in High Dimensional Data*

2009   🔖   **M.Sc.** Interdepartmental Postgraduate Program of the Department of Mathematics in collaboration with the Department of Computer Science and Computer Engineering of the University of Patras, Greece **in Mathematics of Computers and Decision Making**.
Thesis title: *Clustering of High Dimensional Data*

2006   🔖   **Ptychion (4-year Bachelor)** Department of Mathematics, Division of Computational Mathematics and Informatics, University of Patras, Greece **in Mathematics**

Research Visitor

2016   🔖   Visiting Professor Teemu Ross at the Department of Computer Science, University of Helsinki. The purpose of the visit is to plan and carry out joint research in the area of Big Data processing and Machine Learning.

2010   🔖   Visiting Professor Niall Adams at Imperial College London. Attend seminars and discussions, and offer lectures within the ALADDIN Project. The project was concerned with developing mechanisms, architectures, and techniques to deal with the dynamic and uncertain nature of distributed and decentralised intelligent systems.

Scholarships / Awards / Awarded Funding

2023 – 2025 🔖 **Research Scholarship - Team member (Budget 750.000€):** The proposal "Bridging big omics, genetic and medical data for the widespread application of Precision Medicine in Greece." have received funding under the Program "The Greek Recovery and Resilience Plan (RRP), Greece 2.0" funded by the European Union (Next Generation EU)

2022 – 2024 🔖 **Research Scholarship - Principal Investigator (Budget 728.475€):** The proposal "Development of a bronchoscopic biopsies-on-chip (BioOnChip) platform for immunotherapy drug screening in non-small cell lung cancer." have received funding from the Operational Program "Competitiveness, Entrepreneurship and Innovation" (EPAnEK), NSRF .

2019 – 2022 🔖 **Research Scholarship - Principal Investigator (Budget 198.000€):** The proposal "Clustering Big Data" have received funding from the Hellenic Foundation for Research and Innovation (HFRI) and the General Secretariat for Research and Technology (GSRT), under grant agreement No 1901.

2017 – 2019 🔖 **Post Doctoral Research Scholarship (Budget 80.000€):** The proposal "Big graph mining for deciphering complex disease mechanisms" has been financed by the National Strategic Reference Framework (NSRF) Program with title: "Researcher Support with Emphasis on New Researches".

2017 🔖 Participated in proposal **Efficient and Robust Cognitive IoT Systems using Unreliable Sensors** by Prof. Pulkit Grover (Carnegie Mellon University) and Prof. Teemu Roos (University of Helsinki) which is funded by the Academy of Finland and National Science Foundation (NSF).

2016 🔖 The business plan *"Kvasir: Scalable Provision of Semantically Relevant Web Content on Big Data Framework"* was a finalist in **2016 Cambridge Postdoc Enterprise Competition** October 2016, University of Cambridge.

🔖 Successfully applied for EPSRC funded Workshop in collaboration with Dr. Liang Wang and Prof. Jon Crowcroft from University of Cambridge. **title: High Dimensional Big Data Engineering** January 2016, Computer Laboratory, University of Cambridge.

2016 – 2017 🔖 Successfully applied for Internal Research Pump Priming Award: **EU H2020: Big Data PP: Privacy-Preserving Big Data technologies.** Liverpool John Moores University.

2013 🔖 Successfully applied for funding by the "Youth in Action" Programme coordinated by the European Commission, to attend **BONSAI: Bridging Organizations and National Societies in Artificial Intelligence** Bran, Romania, July 24-31, 2013, representing Hellenic Association for Artificial Intelligence (EETN).

2010 🔖 The paper *"Skin lesions characterisation utilising clustering algorithms"* was nominated for the **SETN 2010 Best Student Paper Award** at the 6th Hellenic conference on Artificial Intelligence: theories, models and applications, (SETN 2010), Athens, Greece, 2010

🔖 **IEEE CIS Student Travel Grant Award** for the IEEE World Congress on Computational Intelligence 2010, (WCCI 2010), Barcelona, Spain, 2010

Scholarships / Awards / Awarded Funding (continued)

2010 – 2013   🔖 **Ph.D. Scholarship:** My Ph.D. research has been co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) – Research Funding Program: "Heracleitus II. Investing in knowledge society through the European Social Fund." following a successfully application.

2008 – 2010   🔖 **Scholarship for implementing an application for the Greek Payment Agency (O.P.E.K.E.P.E.):** *Upgrade the regular personnel recruitment application of the Greek Payment Agency (O.P.E.K.E.P.E.).* Basic researcher for the design, the analysis, and the implementation of the application. Duration: 08/09/2008 – 07/03/2009 and 08/09/2009 – 07/03/2010. (PHP/MySQL – Web-based application).

Participation in Research Projects (Researcher)

2020–2023   🔖 ParICT_CENG: Improving ICT research infrastructures in Central Greece for processing large volumes of data from sensor streams, multimedia and complex mathematical simulation models, "Ministry Of Development And Investment, Operational Program: Competitiveness, Entrepreneurship And Innovation".

                🔖 PrescIT: Smart, Personalised and Interoperable Electronic Prescribing Platform, Action Research-Create-Innovate co-funded by the European Union and national resources via the Operational Program "Competitiveness, Entrepreneurship & Innovation (EPAnEK)".

2022   🔖 SmartDelivery: Intelligent distribution routing system in an urban environment, Action Research-Create-Innovate co-funded by the European Union and national resources via the Operational Program "Competitiveness, Entrepreneurship & Innovation (EPAnEK)".

2019–2022   🔖 CrowdHEALTH: Collective wisdom driving public health policies, EU – HORIZON2020

2019–2021   🔖 SISEI: Smart Infotainment System with Emotional Intelligence, Action Research-Create-Innovate co-funded by the European Union and national resources via the Operational Program "Competitiveness, Entrepreneurship & Innovation (EPAnEK)"

                🔖 OACTIVE: Advanced personalised, multi-scale computer models preventing OsteoArthritis, EU – HORIZON2020

2019–2020   🔖 ATHLOS: Ageing Trajectories of Health: Longitudinal Opportunities and Synergies, EU – HORIZON2020

Industry Funded Projects

2020 – 2022   🔖 **Principal Investigator: (Budget 12.000€):** Design and Implementation of Machine Learning Algorithms for analysis and prediction of cargo ship routes, Signal Ocean SMPC

                🔖 **Principal Investigator: (Budget 28.000€):** Development of a Statistical Machine Learning Toolbox for Integrating Medical Data Bases, COVARIANCE SINGLE MEMBER P.C

Teaching Experience and Supervision

2017 – 2023 In charge of the following **undergraduate** courses, Department of Computer Science and Biomedical Informatics, **University of Thessaly, Greece**.

- 2017 – 2023 Summer semester, **"Data Mining and Analysis in Big Data"**
- 2018 – 2020 Autumn semester, **"Artificial Intelligence"**
- 2018 – 2023 Autumn semester, **"Introduction to Programming"**
- 2021 – 2023 Summer semester, **"Deep Learning"**

In charge of the following **postgraduate** courses, MSc in Computer Science and Computational Biomedicine, Department of Computer Science and Biomedical Informatics, **University of Thessaly, Greece**.

- 2017 – 2023 Autumn semester, **"Data Mining and Big Data Analysis in Medicine and Biology"**
- 2018 – 2023 Summer semester, **"Programming Subjects"**

2021 – 2022 In charge of the following **postgraduate** course, MSc in Applied Statistics , Department of Statistics and Insurance Science, **University of Piraeus, Greece**.

- Autumn semester, **"Statistical Machine Learning"**

2015 – 2017 In charge of the following **undergraduate** courses, School of Computer Science and Mathematics, **Liverpool John Moores University, UK**:

- Autumn semester, **"Multivariate Analysis and Data Mining"**
- Spring semester, **"Probability and Risk"**
- Spring semester, **"Statistical Modeling"**

2014 – 2015 In charge of the following **postgraduate** course, MSc in Algorithms and Machine Learning , Department of Computer Science, **University of Helsinki, Finland**

- Summer semester, **"Probabilistic Models"**

2007 – 2009 Teaching assistant for **undergraduate** courses, Department of Mathematics, **University of Patras, Greece**:

- Autumn semester, **Introduction to Computer Science**
- Spring semester, **Introduction to Programming**

Supervision

2023 Awarded **PhD** under my supervision.

- Panagiotis Anagnostou, **thesis title**: Design and Implementation of Machine Learning Algorithms in Big Biomedical Data

Teaching Experience and Supervision (continued)

🔖 Currently supervising the following **PhD students**.

- Petros Mparmpas, **Third year**,2 Journal articles,1 submitted Journal article, 5 conference proceedings and 1 book chapter publications
- Athanasios Siouras, **Third year**, 1 Journal article,1 submitted Journal article and 1 conference proceedings publications.
- Paraskeui Tsakmaki, **Second year**,1 submitted Journal article, 1 book chapter and 1 conference proceedings publications.
- Anastasia Tsoukala, **Second year**, 1 Journal article and 1 conference proceedings publications.
- Katerina Tsiaktani, **First year**

2015 – 2017 🔖 During my Lecturer position at Liverpool John Moores University,

- I have supervised ten undergraduate student dissertations.

- I have been personal tutor of 15 undergraduate students.

- Provided 9 month industrial internship supervision of two undergraduate students:

  1. Kyle Friel - Analyst at Cheshire Datasystems Ltd (CDL).
  2. Lisa Tinkler - Commercial Finance Analyst at Eddie Stobart Logistics Limited.

2013 – 2015 🔖 During my Post Doctoral position at the University of Helsinki,

- I have been involved in the co-supervision of two post graduate students.

- I have supervised one academic internship student.

Academic Activities

2014 – 2015 🔖 Organizing Helsinki Institute for Information Technology HIIT lecture series at the Department of Computer Science, University of Helsinki

2015–2023 🔖 Organizing *Workshop (Chair)* for session "Advances in high dimensional big data" hosted within yearly conference "IEEE International Conference on Big Data (IEEE BigData)".

2013–2023 🔖 **Referee Service/Program Committee:** Transactions on Pattern Analysis and Machine Intelligence (IEEE), Transactions on Computational Social Systems (IEEE), Pattern Recognition (Elsevier), Information Sciences (ELSEVIER), Journal of Classification (Springer), Neural Computing and Applications (Springer), Sensors (MDPI), Applied Mathematics and Computation (Elsevier), The Computer Journal (Oxford Academic), International Meeting on Computational Intelligence Methods for Bioinformatics and Biostatistics (CIBB), IEEE World Congress on Computational Intelligence (IEEE WCCI), Hellenic Conference on Artificial Intelligence (SETN), IEEE International Conference on Big Data (IEEE BigData) and others.

Examiner

2019–2023	Served within six seven-member examining committees for 4 internal and 2 external PhD candidates
2020	Served as external PhD examiner for Dr. Hankui Peng, thesis title: **"Subspace Clustering and Active Learning with Constraints"**, Lancaster University, UK.
2017	Served as external PhD examiner for Dr. Rhian Natalie Davies, thesis title: **"Efficient Analysis of Data Streams"**, Lancaster University, UK.
2016 – 2017	Liverpool John Moores University: Served as Master to PhD transition examiner for:

- Victor Latorre, title:"Smart Analysis of Retail Transaction Data Using Big Data".

- Raul Casana Eslava, title: "Consumer Insights: Fisher Networks, Communities and Bayesian Networks".

Administrative Work

2015 – 2017	Liverpool John Moores University: In charge of, Department's yearly Newsletter.
2019 – 2023	Department of Computer Science and Biomedical Informatics, University of Thessaly, Greece

- Member of **Curriculum Reform Committee**

- Member of **Qualifying Examinations Committee and Qualifying Course Assessors**

Collaboration with the Industry/Professional Experience

2017 – 2023	**Consultant, Signal Maritime, Athens, Greece:** Signal Maritime is a commercial ship management company. A spin-off from Thenamaris Ships Management, a company that has been setting industry standards for approximately 40 years. **Topic:** Machine Learning challenges in Big Data.
2018 – 2019	**Consultant, OgilvyOne Worldwide, Athens, Greece:** OgilvyOne Worldwide Athens was established in 1987 and is part of the OgilvyOne Worldwide network, the world's preeminent Customer Engagement Agency. OgilvyOne Athens has been named both Digital and Direct Agency of the Year in Greece for 2012, 2013, 2014, 2015 and 2016. **Topic:** Visualization and Data Mining.
2011	**Development of the "Bureau of Career and Employment (BCE)" information system**, of the University of Central Greece within the framework of the Operational Programme "Education and Lifelong Learning" of the "National Strategic Reference Framework (NSRF) 2007 -2013".

Invited talks, Seminars, Abstract submission conference talks

May 2021   🔖   Invited talk in Lamia IEEE student branch with topic **"Random Projections in Data Mining Applications"**.

May 2018   🔖   Full Day Seminar with title **"Text Mining Using R"**, within the 31st Greek Conference in Statistics, Lamia, Greece.

Jan. 2017   🔖   Invited talk in Liverpool John Moores University Open Day, with topic **"Math Studies at LJMU"**, Liverpool, UK.

Dec. 2016   🔖   V. Hyvnen, T. Pitknen, S. Tasoulis, E. Jsaari, R. Tuomainen, L. Wang, J. Corander, and T. Roos. "**Random Projections and Voting for Approximate Nearest Neighbor Search**," in IMA Conference on the Mathematical Challenges of Big Data, 1-2 December 2016, Mary Ward House, London, UK.

             🔖   Raúl Casana-Eslava, Sotiris Tasoulis, Ian H. Jarman, Paulo J. G. Lisboa, José D. Martin-Guerrero. "**Quantum clustering of high-dimensional data**," in IMA Conference on the Mathematical Challenges of Big Data, 1-2 December 2016, Mary Ward House, London, UK.

March 2015   🔖   Invited talk in Helsinki Statistics Day, with title **"Random Projection Based Clustering for Population Genomics"**, Helsinki, Finland.

Research Publications

Journal Articles

1. Theocharopoulos, P. C., Bersimis, S., Georgakopoulos, S. V., Karaminas, A., Tasoulis, S. K., & Plagianakos, V. P. (n.d.). Developing predictive precision medicine models by exploiting real-world data using machine learning methods. *Journal of Applied Statistics*, 1–24.
🔗 doi:10.1080/02664763.2024.2315451

2. Stathopoulou, K.-M., Georgakopoulos, S., Tasoulis, S., & Plagianakos, V. P. (2024). Investigating the overlap of machine learning algorithms in the final results of rna-seq analysis on gene expression estimation. *Health Information Science and Systems*, *12*(1), 14. 🔗 doi:10.1007/s13755-023-00265-4

3. Skoufos, G., Kakoulidis, P., Tastsoglou, S., Zacharopoulou, E., Kotsira, V., Miliotis, M., … Hatzigeorgiou, A. G. (2023). TarBase-v9.0 extends experimentally supported miRNA-gene interactions to cell-types and virally encoded miRNAs. *Nucleic Acids Research*, *52*(D1), D304–D310.
🔗 doi:10.1093/nar/gkad1071. eprint:
https://academic.oup.com/nar/article-pdf/52/D1/D304/55040091/gkad1071.pdf

4. Anagnostou, P., Tasoulis, S., Plagianakos, V. P., & Tasoulis, D. (2023). Hipart: Hierarchical divisive clustering toolbox. *Journal of Open Source Software*, *8*(84), 5024. 🔗 doi:10.21105/joss.05024

5. Bicaku, A., Sapounaki, M., Kakarountas, A., & Tasoulis, S. K. (2023). A power-efficient neuromorphic digital implementation of neural-glial interactions. *Journal of Low Power Electronics and Applications*, *13*(1). 🔗 doi:10.3390/jlpea13010010

6. Christonikos, L., Tasoulis, S., Kouretas, D., Metsios, G. S., & Veskoukis, A. S. (2023). Pomegranate juice consumption by patients under medication for addiction treatment as regulator of craving and blood redox status: The study protocol of a randomized control trial (the nutridope study. *International Journal of Clinical Skills, in press.* 🔗 doi:10.37532/1753-0431.2023.17(7).316

7. Leventelis, C., Katsouli, A., Stavropoulos, V., Karasavvidou, A., Papadopoulos, P., Barmpas, P. T., … Tsironi, M. (2023). The development and validation of the pandemic medication-assisted treatment questionnaire for the assessment of pandemic crises impact on medication management and administration for patients with opioid use disorders. *Nordic Studies on Alcohol and Drugs*, *40*(1), 76–94. doi:10.1177/14550725221135574. eprint: https://doi.org/10.1177/14550725221135574

8. Nellas, I. A., Tasoulis, S. K., Georgakopoulos, S. V., & Plagianakos, V. P. (2023). Two phase cooperative learning for supervised dimensionality reduction. *Pattern Recognition*, *144*, 109871. doi:https://doi.org/10.1016/j.patcog.2023.109871

9. Theocharopoulos, P. C., Tsoukala, A., Georgakopoulos, S. V., Tasoulis, S. K., & Plagianakos, V. P. (2023). Analysing sentiment change detection of covid-19 tweets. *Neural Computing and Applications*, *35*(29), 21433–21443. doi:10.1007/s00521-023-08662-2

10. Barmpas, P., Tasoulis, S., Vrahatis, A. G., Georgakopoulos, S. V., Anagnostou, P., Prina, M., … Panagiotakos, D. (2022a). A divisive hierarchical clustering methodology for enhancing the ensemble prediction power in large scale population studies: The athlos project. *Health Information Science and Systems*, *10*(1), 6. doi:10.1007/s13755-022-00171-1

11. Siouras, A., Moustakidis, S., Giannakidis, A., Chalatsis, G., Liampas, I., Vlychou, M., … Tsaopoulos, D. (2022). Knee injury detection using deep learning on mri studies: A systematic review. *Diagnostics*, *12*(2). doi:10.3390/diagnostics12020537

12. Anagnostou, P., Tasoulis, S., Vrahatis, A. G., Georgakopoulos, S., Prina, M., Ayuso-Mateos, J. L., … Panagiotakos, D. (2021). Enhancing the human health status prediction: The athlos project. *Applied Artificial Intelligence*, *35*(11), 834–856. doi:10.1080/08839514.2021.1935591

13. Anastou, A.-C., Delibasis, K. K., Boulogeorgos, A.-A. A., Sandalidis, H. G., Vavoulas, A., & Tasoulis, S. K. (2021). A low complexity indoor visible light positioning method. *IEEE Access*, *9*, 57658–57673. doi:10.1109/ACCESS.2021.3072348

14. Lampropoulos, I. C., Raptis, D. G., Daniil, Z., Tasoulis, S. K., Plagianakos, V. P., Malli, F., & Gourgoulianis, K. I. (2021). Temporal trends in pulmonary embolism prevalence in greece during 2013–2017. *BMC Public Health*, *21*(1), 559. doi:10.1186/s12889-021-10621-2

15. Georgakopoulos, S. V., Tasoulis, S. K., Mallis, G. I., Vrahatis, A. G., Plagianakos, V. P., & Maglogiannis, I. G. (2020). Change detection and convolution neural networks for fall recognition. *Neural Computing and Applications*, *32*(23), 17245–17258.

16. Tasoulis, S., Pavlidis, N. G., & Roos, T. (2020). Nonlinear dimensionality reduction for clustering. *Pattern Recognition*, *107*, 107508.

17. Vrahatis, A. G., Tasoulis, S. K., Georgakopoulos, S. V., & Plagianakos, V. P. (2020). Ensemble classification through random projections for single-cell rna-seq data. *Information*, *11*(11), 502.

18. Mason, C. L., Leedale, J., Tasoulis, S., Jarman, I., & Webb, S. D. (2019). A systems toxicology paracetamol overdose framework: Accounting for high-risk individuals. *Computational Toxicology*, *12*, 100103.

19. Mason, C. L., Leedale, J., Tasoulis, S., Jarman, I., Antoine, D. J., & Webb, S. D. (2018). Systems toxicology approach to identifying paracetamol overdose. *CPT: pharmacometrics & systems pharmacology*, *7*(6), 394–403.

20. Nicos G. Pavlidis, S. K. T., David P. Hofmeyr. (2016). Minimum density hyperplanes. *Journal of Machine Learning Research*, *17*(156), 1–33.

21. Wang, L., Tasoulis, S., Roos, T., & Kangasharju, J. (2016). Kvasir: Scalable provision of semantically relevant web content on big data framework. *IEEE Transactions on Big Data*.

22 Maglogiannis, I., Georgakopoulos, S. V., Tasoulis, S. K., & Plagianakos, V. P. (2015). A software tool for the automatic detection and quantification of fibrotic tissues in microscopy images. *Information Sciences*, *308*, 125–139.

23 Tasoulis, S. K., Maglogiannis, I., & Plagianakos, V. P. (2014). Fractal analysis and fuzzy c-means clustering for quantification of fibrotic microscopy images. *Artificial Intelligence Review*, *42*(3), 313–329.

24 Tasoulis, S. K., Doukas, C. N., Plagianakos, V. P., & Maglogiannis, I. (2013). Statistical data mining of streaming motion data for activity and fall recognition in assistive environments. *Neurocomputing*, *107*, 87–96.

25 Tasoulis, S. K., Tasoulis, D. K., & Plagianakos, V. P. (2013). Random direction divisive clustering. *Pattern Recognition Letters*, *34*(2), 131–139.

26 Tasoulis, S., Tasoulis, D., & Plagianakos, V. (2010). Enhancing principal direction divisive clustering. *Pattern Recognition*, *43*(10), 3391–3411. 🔗 doi:https://doi.org/10.1016/j.patcog.2010.05.025

Conference Proceedings

1 Anagnostou, P., Pavlidis, N. G., & Tasoulis, S. (2024). Ensemble clustering for boundary detection in high-dimensional data. In G. Nicosia, V. Ojha, E. La Malfa, G. La Malfa, P. M. Pardalos, & R. Umeton (Eds.), *Machine learning, optimization, and data science* (pp. 324–333). Cham: Springer Nature Switzerland.

2 Anagnostou, P., Barmpas, P., Tasoulis, S. K., Georgakopoulos, S. V., & Plagianakos, V. P. (2023). Neural networks voting for projection based ensemble classifiers. In *2023 ieee international conference on big data (bigdata)* (pp. 4567–4574). 🔗 doi:10.1109/BigData59044.2023.10386944

3 Chintiroglou, M., Karanikas, H., & Tasoulis, S. (2023). Greek hospital data mining and analysis. (Vol. 302, pp. 282–286). 🔗 doi:10.3233/shti230119

4 Vangelatos, G., Karanikas, H., & Tasoulis, S. (2022). Atlantes: Automated health related & covid-19 data management for use in predictive models. (Vol. 294, pp. 659–663). 🔗 doi:10.3233/SHTI220551

5 Dallas, I. L., Vrahatis, A. G., Tasoulis, S. K., & Plagianakos, V. P. (2022). Recent dimensionality reduction techniques for high-dimensional covid-19 data. In D. Chicco, A. Facchiano, E. Tavazzi, E. Longato, M. Vettoretti, A. Bernasconi, … P. Cazzaniga (Eds.), *Computational intelligence methods for bioinformatics and biostatistics* (pp. 227–241). Cham: Springer International Publishing.

6 Georgakopoulos, S. V., Tasoulis, S. K., Vrahatis, A. G., Moustakidis, S., Tsaopoulos, D. E., & Plagianakos, V. P. (2022). Deep hybrid learning for anomaly detection in behavioral monitoring. In *2022 international joint conference on neural networks (ijcnn)* (pp. 1–9). 🔗 doi:10.1109/IJCNN55064.2022.9892769

7 Lazaros, K., Tasoulis, S., Aristidis, V., & VVassilis, P. (2022). Feature selection for high dimensional data using supervised machine learning techniques. In *2022 ieee international conference on big data (big data)* (pp. 3891–3894). 🔗 doi:10.1109/BigData55660.2022.10020654

8 Siouras, A., Moustakidis, S., Giannakidis, A., Chalatsis, G., Malizos, K. N., Hantes, M., … Tsaopoulos, D. (2022). Automated recognition of healthy anterior cruciate ligament in sagittal mr images using lightweight deep learning. In *2022 13th international conference on information, intelligence, systems & applications (iisa)* (pp. 1–8). 🔗 doi:10.1109/IISA56318.2022.9904387

9 Theocharopoulos, P. C., Tsoukala, A., Georgakopoulos, S. V., Tasoulis, S. K., & Plagianakos, V. P. (2022). Text analysis of covid-19 tweets. In L. Iliadis, C. Jayne, A. Tefas, & E. Pimenidis (Eds.), *Engineering applications of neural networks* (pp. 517–528). Cham: Springer International Publishing.

10 Agriodimos, G., Gallos, P., Tasoulis, S., & Anagnostopoulos, I. (2021). An online information tool for diabetic retinopathy. (Vol. 287, pp. 167–168). 🔗 doi:10.3233/SHTI210840

11 Barbas, P., Vrahatis, A. G., & Tasoulis, S. K. (2021). Rlac: Random line approximation clustering. In *2021 ieee international conference on big data (big data)* (pp. 985–993). 🔗 doi:10.1109/BigData52589.2021.9671596

12 Chatzilygeroudis, K. I., Vrahatis, A. G., Tasoulis, S. K., & Vrahatis, M. N. (2021). Feature selection in single-cell rna-seq data via a genetic algorithm. In D. E. Simos, P. M. Pardalos, & I. S. Kotsireas (Eds.), *Learning and intelligent optimization* (pp. 66–79). Cham: Springer International Publishing.

13 Nellas, I. A., Tasoulis, S. K., & Plagianakos, V. P. (2021). Convolutional variational autoencoders for image clustering. In *2021 international conference on data mining workshops (icdmw)* (pp. 695–702). 🔗 doi:10.1109/ICDMW53433.2021.00091

14 Anagnostou, P., Barbas, P., Vrahatis, A. G., & Tasoulis, S. K. (2020). Approximate knn classification for biomedical data. In *2020 ieee international conference on big data (big data)* (pp. 3602–3607). 🔗 doi:10.1109/BigData50022.2020.9378126

15 Delibasis, K., Georgakopoulos, S. V., Tasoulis, S., Maglogiannis, I., & Plagianakos, V. P. (2020). On image prefiltering for skin lesion characterization utilizing deep transfer learning. In *International conference on engineering applications of neural networks* (pp. 377–388). Springer, Cham.

16 Georgakopoulos, S. V., Tasoulis, S. K., Vrahatis, A. G., & Plagianakos, V. P. (2019). Convolutional neural networks for twitter text toxicity analysis. In *Inns big data and deep learning conference* (pp. 370–379). Springer, Cham.

17 Tasoulis, S. K., Mallis, G. I., Georgakopoulos, S. V., Vrahatis, A. G., Plagianakos, V. P., & Maglogiannis, I. G. (2019). Deep learning and change detection for fall recognition. In *International conference on engineering applications of neural networks* (pp. 262–273). Springer, Cham.

18 Vrahatis, A. G., Dimitrakopoulos, G. N., Tasoulis, S. K., Georgakopoulos, S. V., & Plagianakos, V. P. (2019). Single-cell regulatory network inference and clustering from high-dimensional sequencing data. In *2019 ieee international conference on big data (big data)* (pp. 2782–2789). 🔗 doi:10.1109/BigData47090.2019.9006016

19 Vrahatis, A., Dimitrakopoulos, G., Tasoulis, S., & Plagianakos, V. (2019). Enhancing clustering of single-cell rna-seq data by proximity learning on random projected spaces. In *2019 ieee 19th international conference on bioinformatics and bioengineering (bibe)* (pp. 846–849). IEEE.

20 Vrahatis, A. G., Dimitrakopoulos, G. N., Tasoulis, S. K., & Plagianakos, V. P. (2019). A single-cell systems biology approach for disease-specific subpathway extraction. In *2019 ieee conference on computational intelligence in bioinformatics and computational biology (cibcb)* (pp. 1–7). IEEE.

21 Vrahatis, A. G., Tasoulis, S. K., Dimitrakopoulos, G. N., & Plagianakos, V. P. (2019). Visualizing high-dimensional single-cell rna-seq data via random projections and geodesic distances. In *2019 ieee conference on computational intelligence in bioinformatics and computational biology (cibcb)* (pp. 1–6). IEEE.

22 Georgakopoulos, S. V., Tasoulis, S. K., Vrahatis, A. G., & Plagianakos, V. P. (2018). Convolutional neural networks for toxic comment classification. In *Proceedings of the 10th hellenic conference on artificial intelligence* (pp. 1–6).

23 Tasoulis, S. K., Vrahatis, A. G., Georgakopoulos, S. V., & Plagianakos, V. P. (2018a). Real time sentiment change detection of twitter data streams. In *2018 innovations in intelligent systems and applications (inista)* (pp. 1–6). 🔗 doi:10.1109/INISTA.2018.8466326

24 Tasoulis, S. K., Vrahatis, A. G., Georgakopoulos, S. V., & Plagianakos, V. P. (2018b). Biomedical data ensemble classification using random projections. In *2018 ieee international conference on big data (big data)* (pp. 166–172). IEEE.

25 Tasoulis, S. K., Vrahatis, A. G., Georgakopoulos, S. V., & Plagianakos, V. P. (2018c). Visualizing high-dimensional single-cell rna-sequencing data through multiple random projections. In *2018 ieee international conference on big data (big data)* (pp. 5448–5450). IEEE.

26 Hyvönen, V., Pitkänen, T., Tasoulis, S., Jääsaari, E., Tuomainen, R., Wang, L., … Roos, T. (2016). Fast nearest neighbor search through sparse random projections and voting. In *2016 ieee international conference on big data (big data)* (pp. 881–888). IEEE.

27 Zhao, Y., Tasoulis, S., & Roos, T. (2016). Manifold visualization via short walks. In *Eurovis 2016*. The Eurographics Association.

28 Georgakopoulos, S. V., Tasoulis, S. K., Maglogiannis, I., & Plagianakos, V. P. (2015). On-line fall detection via mobile accelerometer data. In *Ifip international conference on artificial intelligence applications and innovations* (pp. 103–112). Springer, Cham.

29 Georgakopoulos, S. V., Tasoulis, S. K., & Plagianakos, V. P. (2015). Efficient change detection for high dimensional data streams. In *2015 ieee international conference on big data (big data)* (pp. 2219–2222). IEEE.

30 Wang, L., Tasoulis, S., Roos, T., & Kangasharju, J. (2015). Kvasir: Seamless integration of latent semantic analysis-based content provision into web browsing. In *Proceedings of the 24th international conference on world wide web* (pp. 251–254).

31 Tasoulis, S., Cheng, L., Välimäki, N., Croucher, N. J., Harris, S. R., Hanage, W. P., … Corander, J. (2014). Random projection based clustering for population genomics. In *2014 ieee international conference on big data (big data)* (pp. 675–682). IEEE.

32 Georgakopoulos, S. V., Tasoulis, S. K., Plagianakos, V. P., & Maglogiannis, I. (2013). Artificial neural networks and principal components analysis for detection of idiopathic pulmonary fibrosis in microscopy images. In *International conference on engineering applications of neural networks* (pp. 292–301). Springer, Berlin, Heidelberg.

33 Tasoulis, S. K., Epitropakis, M. G., Plagianakos, V. P., & Tasoulis, D. K. (2012). Density based projection pursuit clustering. In *2012 ieee congress on evolutionary computation* (pp. 1–8). IEEE.

34 Tasoulis, S. K., Maglogiannis, I., & Plagianakos, V. P. (2012). Unsupervised detection of fibrosis in microscopy images using fractals and fuzzy c-means clustering. In *Ifip international conference on artificial intelligence applications and innovations* (pp. 385–394). Springer, Berlin, Heidelberg.

35 Tasoulis, S. K., Tasoulis, D. K., & Plagianakos, V. P. (2012). Clustering of high dimensional data streams. In *Hellenic conference on artificial intelligence* (pp. 223–230). Springer, Berlin, Heidelberg.

36 Tasoulis, S. K., Doukas, C. N., Maglogiannis, I., & Plagianakos, V. P. (2011b). Statistical data mining of streaming motion data for fall detection in assistive environments. In *2011 annual international conference of the ieee engineering in medicine and biology society* (pp. 3720–3723). IEEE.

37 Tasoulis, S. K., Doukas, C. N., Maglogiannis, I., & Plagianakos, V. P. (2010a). Classification of apoptosis using advanced clustering techniques on digital microscopic images. In *2010 annual international conference of the ieee engineering in medicine and biology* (pp. 5565–5568).
🔗 doi:10.1109/IEMBS.2010.5626777

38 Tasoulis, S., Doukas, C., Maglogiannis, I., & Plagianakos, V. (2010). Classification of dermatological images using advanced clustering techniques. In *2010 annual international conference of the ieee engineering in medicine and biology* (pp. 6721–6724). IEEE.

39 Tasoulis, S. K., Doukas, C. N., Maglogiannis, I., & Plagianakos, V. P. (2010b). Skin lesions characterisation utilising clustering algorithms. In *Hellenic conference on artificial intelligence* (pp. 243–253). Springer, Berlin, Heidelberg.

40 Tasoulis, S. K., Tasoulis, D. K., & Plagianakos, V. P. (2010). Evolutionary principal direction divisive partitioning. In *Ieee congress on evolutionary computation* (pp. 1–7). IEEE.

41 Tasoulis, S. K., Plagianakos, V. P., & Tasoulis, D. K. (2009). Projection based clustering of gene expression data. In *International meeting on computational intelligence methods for bioinformatics and biostatistics* (pp. 228–239). Springer, Berlin, Heidelberg.

42 Tasoulis, S., & Tasoulis, D. (2008). Improving principal direction divisive clustering. In *14th acm sigkdd international conference on knowledge discovery and data mining (kdd 2008), workshop on data mining using matrices and tensors.*

Books and Chapters

1 Barmpas, P., Tasoulis, S., Vrahatis, A. G., Georgakopoulos, S. V., Anagnostou, P., Prina, M., … Panagiotakos, D. (2022b). Unsupervised learning for large scale data: The athlos project. In *Statistical modeling of reliability structures and industrial processes (1st ed.)* (p. 22). CRC Press.

2 Tsakmaki, P. V., & Tasoulis, S. K. (2020a). Heart rate variability indexes in schizophrenia. In P. Vlamos, I. S. Kotsireas, & I. Tarnanas (Eds.), *Handbook of computational neurodegeneration* (pp. 1–9). 🔗 doi:10.1007/978-3-319-75479-6{_}42-1

3 Vrahatis, A. G., Tasoulis, S. K., Maglogiannis, I., & Plagianakos, V. P. (2020). Recent machine learning approaches for single-cell rna-seq data analysis. In *Advanced computational intelligence in healthcare-7* (pp. 65–79). Springer, Berlin, Heidelberg.

4 Tasoulis, S. K., Doukas, C. N., Maglogiannis, I., & Plagianakos, V. P. (2011a). Independent component clustering for skin lesions characterization. In *Artificial intelligence applications and innovations* (pp. 472–482). Springer, Berlin, Heidelberg.

Publication Metrics

Google Scholar	🔖 As of January 2023, there are 892 citations
Google Scholar metrics	🔖 Number of publications within top 20 venues according to the Google Scholar metrics categories

- Top category: Engineering and Computer Science

- subcategories:

  - Artificial Intelligence: 5
  - Computer Vision and Pattern Recognition: 4
  - Data Mining and Analysis: 11
  - Data Bases and Information Systems: 2

Impact factor	🔖 average impact factor across journal publications 5.83

Skills

Languages	🔖 Strong reading, writing and speaking competencies for English, Greek.
Coding	🔖 MATLAB™, Octave, R, Python,C/C++, Bash Scripting, LaTeX, …
Operating Systems	🔖 Expert in Linux-based and Unix-based OS, Microsoft™

References

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