Curriculum vitae

PERSONAL DATA

NAME:	Francisco de Assis Tenório de Carvalho
NATIONALITY:	Brazil
DATE OF BIRTH:	01/11/1958
PLACE OF BIRTH:	Garanhuns, Brazil
EMAIL:	fatc@cin.ufpe.br

EDUCATION

09/1988-07-1992	Docteur en Informatique des Organisations, **Université Paris-IX Dauphine**, Paris, France Supervisor: Edwin Diday
09/1987-07/1988	DEA en Informatique des Organisations, **Université Paris-IX Dauphine**, Paris, France Supervisor: Edwin Diday
03/1976-07/1980	BSc in Electrical Engeneering, **Universidade Federal de Pernambuco – UFPE**, Recife, Brazil

PROFESSIONAL EXPERIENCE

2011- Present	Full Professor, Informatic Center, Universidade Federal de Pernambuco, Recife, Brazil
2018 to 2020, 2022 to 2025	Invited Visiting Professor, University of Campania Luigi Vanvitelli, Caserta, Italy
2023	Invited Visiting Professor, National Research University Higher School of Economics, NRU HSE, Russia
1993, 1995, 2014, 2017	Invited Visiting Professor, Université Paris-IX Dauphine, Paris, France
2016	Invited Visiting Professor, Université Paris Descartes, Paris, France
2006, 2010, 2014 to 2016	Invited Visiting Professor, Seconda Universita degli Studi di Napoli, SUN, Napoli, Italy.
2015	Visiting Professor, RWTHA Aachen University, RWTHA, Germany
2013	Invited Visiting Professor, Sri Jayachamarajendra College of Engineering, Mysore, SJCE, India.
2012	Invited Visiting Professor, Université d'Orléans, Orléans, France.
2012	Invited Visiting Professor, National Taiwan University of Science and Technology, TAIWAN TECH, China
1992 to 2014	Invited Visiting Researcher, Institut National de Recherche en Informatique et en Automatique (INRIA), Rocquencourt, France
2007	Visiting Researcher, Max Planck Institute für molekuläre Genetik, MPIMG, Germany
2004	Visiting Researcher, Université Pierre et Marie Curie, PARIS-VI, France.
1999-2010	Associate Professor, Informatic Center, Universidade Federal de Pernambuco, Recife, Brazil
2001	Invited Visiting Researcher Universidade do Porto, U.PORTO, Portugal

1995-1999	Associate Professor, Statistics Departement, Universidade Federal de Pernambuco, Recife, Brazil
1992-1995	Associate Professor, Physics and Mathematics Departement, Universidade Federal Rural de Pernambuco, Recife, Brazil
1986-1992	Assistant Professor, Physics and Mathematics Departement, Universidade Federal Rural de Pernambuco, Recife, Brazil
1984-1986	Auxiliary Professor, Informatics Departement, Universidade Católica de Pernambuco, Recife, Brazil

SCIENTIFIC PRODUCTION INDICATORS

ORCID: https://orcid.org/0000-0003-1128-745X
Web of Science: https://www.webofscience.com/wos/author/record/1776790
Scopus: https://www.scopus.com/authid/detail.uri?authorId=9432669000
Publon: https://publons.com/researcher/2220905/francisco-de-assis-tenorio-de-carvalho/
Dblp: https://dblp.org/pid/65/6740.html
Google Scholar: https://scholar.google.com/citations?user=7t7NjEUAAAAJ&hl=pt-BR
Research Gate: https://www.researchgate.net/profile/Francisco-Carvalho-6
Lattes CNPq: http://lattes.cnpq.br/3909162572623711 (In Portuguese)

LANGUAGE SKILLS

English:	Fluent
French:	Fluent
Portuguese:	Native

CURRENT GRANTS AND SCHOLARSHIPS

03/2021 to 02/2026	Métodos de aprendizagem automática para a analise de dados, Proc. 311164/2020-0, CNPq Productivity Research Grant, **Level 1A**, Brazil
02/2022 to 02/2025	Aprendizagem automática a partir de dados vetoriais quantitativos e simbólicos, Proc. 402873/2021-1, CNPq Universal call for research projects 2021, Brazil

RECENT RELEVANT RESEARCH RESULTS

- de Carvalho, F.A.T.; de Melo, F. M. ; Lechevallier, Y.: A multi-view relational fuzzy c-medoid vectors clustering algorithm. Neurocomputing, 163, 115-123, 2015 (Web of Science: 25; Scopus: 31; Google: 35).
- de Carvalho, F.A.T.; Bertrand, P.; Simões, E.C.: Batch SOM algorithms for interval-valued data with automatic weighting of the variables. Neurocomputing, 182, 66-81, 2016 (Web of Science: 13; Scopus: 13; Google: 18).
- Ferreira, M.R.P; de Carvalho, F.A.T.; Simões, E.C.: Kernel-based hard clustering methods with kernelization of the metric and automatic weighting of the variables. Pattern Recognition, 51, 310-321, 2016 (Web of Science: 23; Scopus: 26; Google: 35).
- de Carvalho, F.A.T.; Simões, E.C.: Fuzzy Clustering of Interval-Valued Data with City-Block and Hausdorff Distances. Neurocomputing, 266, 659-673, 2017 (Web of Science: 23; Scopus: 26; Google: 28).

- Lima Neto, E.A., de Carvalho, F.A.T.: Nonlinear regression applied to interval-valued data. Pattern Analysis and Applications, 20(3), 809–824, 2017 (Web of Science: 29; Scopus: 30; Google: 43).
- Irpino, A.; Verde, R.; de Carvalho, F.A.T. : Fuzzy clustering of distributional data with automatic weighting of variable components. Information Sciences, 406, 248-268, 2017 (Web of Science: 13; Scopus: 13; Google: 18).
- de Carvalho, F. A. T.; Lima Neto, E.A.; Ferreira, M.R.P. : A robust regression method based on exponential-type kernel functions. Neurocomputing, 234, 58-74, 2017 (Web of Science: 12; Scopus: 15; Google: 18).
- de Carvalho, F.A.T.; Simões, E.C.; Santana, L.V.C.; Ferreira, M.R.P.: Gaussian Kernel C-Means Hard Clustering Algorithms with Automated Computation of the Width Hyper-Parameters. Pattern Recognition, 79, 370-386, 2018 (Web of Science: 10; Scopus: 13; Google: 14).
- Lima Neto, E.A.; de Carvalho, F.A.T. : An exponential-type kernel robust regression model for interval-valued variables. Information Sciences, 454, 419-442, 2018 (Web of Science: 29; Scopus: 30; Google: 39).
- de Gusmão, R.P.; de Carvalho, F.A.T: Clustering of multi-view relational data based on particle swarm optimization. Expert Systems with Applications, 123, 34-53, 2019 (Web of Science: 11; Scopus: 25; Google: 25).
- de Gusmão, R.P.; de Carvalho, F.A.T: PSO for Fuzzy Clustering of Multi-view Relational Data. International Journal of Pattern Recognition and Artiticial Intelligence, 34, 2050022-2050022-33, 2020 (Web of Science: 2; Scopus: 3; Google: 3).
- Rodriguez, S.I.R. ; de Carvalho, F.A.T.: Soft subspace clustering of interval-valued data with regularizations. Knowledge-Based Systems, 227, 107191, 2021 (Web of Science: 9; Scopus: 9; Google: 10).
- de Carvalho, F.A.T.; Lima Neto, E.A. ; da Silva, K.C.F.: A clusterwise nonlinear regression algorithm for interval-valued data. Information Sciences, 555, 357-385, 2021 (Web of Science: 19; Scopus: 18; Google: 24).
- de Carvalho, F.A.T.; Balzanella, A.; Irpino, A; Verde, R.: Co-clustering algorithms for distributional data with automated variable weighting. Information Sciences, 549, 87-115, 2021 (Web of Science: 4; Scopus: 4; Google: 9).
- de Carvalho, F.A.T.; Lima Neto, E.A.; Rosendo, U. N.: Interval joint robust regression method. Neurocomputing, 465, 265-288, 2021 (Web of Science: 7; Scopus: 7; Google: 8).
- Silva, R.A.M.; de Carvalho, F.A.T.: Weighted Clusterwise Linear Regression based on adaptive quadratic form distance. Expert Systems with Application, 185, 111609, 2021 (Web of Science: 3; Scopus: 5; Google: 5).
- Rodriguez, S.I.R.; de Carvalho, F.A.T.: Fuzzy clustering algorithms with distance metric learning and entropy regularization. Applied Soft Computing, 113, Part A, 107922, 2021 (Web of Science: 6; Scopus: 10; Google: 15).
- Mariño, L.M.P., de Carvalho, F.A.T.: Vector batch SOM algorithms for multi-view dissimilarity data. Knowledge-Based Systems, 258, 109994, 2022 (Web of Science: 2; Scopus: 5; Google: 7).
- Rodriguez, S.I.R.; de Carvalho, F.A.T.: Clustering interval-valued data with adaptive Euclidean and City-Block distances. Expert Systems with Applications, 198 116764, 2022 (Web of Science: 8; Scopus: 9; Google: 13).

- de Carvalho, F.A.T.; Irpino, A; Verde, R; Balzanella, A.: Batch Self-Organizing Maps for Distributional Data with an Automatic Weighting of Variables and Components. Journal of Classification, 39, 343-375, 2022 (Web of Science: 5; Scopus: 4; Google: 4).
- Marino, L.M.P.; de Carvalho, F.A.T.: Two weighted c-medoids batch SOM algorithms for dissimilarity data. Information Sciences, 607, 603-619, 2022 (Web of Science: 0; Scopus: 3; Google: 3).
- Oliveira, M.S.; Queiroz, S.R.M.; de Carvalho, F.A.T.: Unsupervised feature selection method based on iterative similarity graph factorization and clustering by modularity. Expert Systems with Applications, 208 118092, 2022 (Web of Science: 4; Scopus: 4; Google: 4).
- Branco, D.P.P., de Carvalho, F.A.T.: Medoid based semi-supervised fuzzy clustering algorithms for multi-view relational data. Fuzzy Sets and Systems, 469, 108630, 2023 (Web of Science: 2; Scopus: 4; Google: 4).
- Simões, E.C., de Carvalho, F.A.T: Gaussian kernel fuzzy c-means with width parameter computation and regularization. Pattern Recognition, 143, 109749, 2023 (Web of Science: 8; Scopus: 10; Google: 10).
- Marino, L.M.P.; de Carvalho, F.A.T.: Self-organizing maps with adaptive distances for multiple dissimilarity matrices. Machine Learning, 113(10), 7783-7806, 2024 (Web of Science: 0; Scopus: 0; Google: 0)

ACADEMIC INDICATORS

Edited/Organized books:	1
Indexed jornal papers:	66
Book chapters:	13
Conference papers:	159
MSc supervisions:	25 concluded (3 as co-supervisor) and 2 under supervision (1 as co-supervisor)
PhD supersivions:	14 concluded (1 as co-supervisor) and 5 under supervision (2 as co-supervisor)
Post-doctorate supervisions:	4 concluded and 1 under supervision
PhD exam commitees:	23
Hibilitation exam committees:	13
MSc exam committees:	44

OTHERS RELEVANT INFORMATIONS

Research awards

- Among 2% of most world influential scientists in artificial intelligence during all carrier (until 2023), Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7), 2024
- Among 2% of most world influential scientists in artificial intelligence during all carrier (until 2022), Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6), 2023
- Among 2% of most world influential scientists in artificial intelligence in 2022, Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6), 2023

- Among 2% of most world influential scientists in artificial intelligence during all carrier (until 2021), Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4), 2022
- Among 2% of most world influential scientists in artificial intelligence in 2021, Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4), 2022
- Scientific merit award, SBC – Brazilian Computer Society, 2021 (https://pt.wikipedia.org/wiki/Pr%C3%AAmio_do_M%C3%A9rito_Cient%C3%ADfico) (https://www.sbc.org.br/33-premios/148-merito-cientifico#:~:text=2021%3A%20Francisco%20de%20Assis%20Ten%C3%B3rio,Carvalho%20%5C%20Augusto%20C%C3%A9zar%20Alves%20Sampaio)
- Top 14 most productive and top 50 most influencial (among 13970) author in clustering algorithms, period 30 years (from 1989 to 2019), Neural Computing and Applications/Springer (https://doi.org/10.1007/s00521-020-05395-4), 2021
- Since 2021 Classified as Resercher Level 1A (top) in National Research Council (CNPq), Brazil
- Among 2% of most world influential scientists in artificial intelligence during all carrier (until 2020), Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3), 2021
- Among 2% of most world influential scientists in artificial intelligence in 2020, Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3), 2021
- Among 2% of most world influential scientists in artificial intelligence during all carrier (until 2019), Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/2), 2020
- Among 2% of most world influential scientists in artificial intelligence in 2019, Plos Biology/Elsevier/Stanford (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/2), 2020
- Invited speaker, 3rd International Symposium on Interval Data Modelling: Theory and Applications (SIDM 2017).
- Invited speaker, 10ième Conférence Internationale Francophone sur l'Extraction et la Gestion des Connaissances (EGC-2010), Association Internationale Francophone d'Extraction et de Gestion des Connaissances.
- Invited speaker, 12emes Rencontres de la Société Francophone de Classification - SFC 2005, Société Francophone de Classification - SFC.

Memberships and positions

- Fellow of The World Academy of Sciences for the advancement of science in developing countries – TWAS, since 2025
- Fellow of The Asia-Pacific Artificial Intelligence Association - AAIA, since 2024: https://www.coreacad.org/Member.aspx?ProId=132
- Fellow of The Asia-Pacific Artificial Intelligence Association - AAIA, since 2024: https://www.aaia-ai.org/fellows?words=carvalho
- Fellow of the International Artificial Intelligence Industry Alliance – AIIA, since 2024: https://www.aiia-ai.org/nd.jsp?id=324&fromMid=3681&groupId=31
- Fellow of the Brazilian Academy of Sciences (ABC) since 2023 (http://www.abc.org.br/2022/12/01/novos-membros-da-abc-2022/)

- Fellow of the Science Academy of Pernambuco (APC), Brazil, since 2020 (https://academiapc.org/academicos/88-1-francisco-de-assis-de-carvalho/)
- Concil member elected of the International Association for Statistical Computing (IASC): 2009 to 2013
- Board of Directors of the Latin American Regional Section (LARS) of the International Association for Statistical Computing (IASC): 2017 to 2020
- Member of Computer Science Advisory Committee of the Brazilian National Research Council, CA-CC CNPq: 2017 to 2020 and 2023 to 2026
- Member of Exact and Natural Science Advisory Committee of the Foundation for the Support of Science and Technology of the State of Pernambuco, FACEPE: 2006 to 2009; 2021 to 2023 and 2023 to 2025
- Head of Departement of Information Systems, Informatics Center, Universidade Federal de Pernambuco: 2014 to 2021
- Boarding of the Artificial Intelligence Committee-CEIA of the Brazilian Computer Society (SBC): 2008 to 2009
- Boarding of the Neural Networks Committee-CERN of the Brazilian Computer Society (SBC): 2010 to 2014
- Coordinator of Post-Graduated Program of Computer Science, Informatics Center, Universidade Federal de Pernambuco: 2005 to 2009
- Editorial Board of Journals: IEEE Transactions on Systems, Man, and Cybernetics, Part B, Invited Editor: 2013 to 2016
- Reviewer of International Journals: IEEE Transactions on Pattern Analysis and Machine Intelligence, European Journal of Operational Research, Journal of Classification, Neurocomputing, Information Sciences, Advances in Data Analysis and Classification, Pattern Recognition, Neural Networks, Fuzzy Sets and Systems, IEEE Transactions on Fuzzy Systems, Computational Statistics & Data Analysis and other journals related to data science, machine learning and artificial intelligence.
- Member of Program Committee: BRACIS, ENIAC, KDMILE, CBSF, EGC, SFC, ICANN and other conferences related to data science, machine learning and artificial intelligence.