

**JOÃO GAMA**  
INESC TEC, FEP - University of Porto

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**POSITION**

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Full Professor	
School of Economics	jgama@fep.up.pt
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**SUMMARY**

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João Gama is a Full Professor at the School of Economics, University of Porto, Portugal. He received his Ph.D. in Computer Science from the University of Porto in 2000. He is EurIA Fellow, IEEE Fellow, Fellow of the Asia-Pacific AI Association, and a member of the board of directors of the LIAAD, a group belonging to INESC Porto. He has been the Editor-in-Chief of the Journal of Data Science and Analytics, since 2023. He is an Editor of several top-level Machine Learning and Data Mining journals. He is an ACM Distinguish Speaker. He served as Program Chair of ECMLPKDD 2005, DS09, ADMA09, EPIA 2017, DSAA 2017, served as Conference Chair of IDA 2011, ECMLPKDD 2015, DSAA'2021, ECMLPKDD 2025 and a series of Workshops on KDDS and Knowledge Discovery from Sensor Data with ACM SIGKDD. His main research interests are in knowledge discovery from data streams, evolving data, probabilistic reasoning, and causality. He has an extensive list of publications in data stream learning.

**EDUCATION**

2022 - Visiting Professor, University of Waikato, New Zealand, May-June 2022  
2020 - Visiting Professor, University of Waikato, New Zealand, January 2020  
2018 - Visiting Professor University of Orleans, France, June 2018  
2017 - Visiting Professor TelecomParis Tech, France, June 2017  
2017 - Chair of Excellence University Carlos III, Madrid, Feb-June  
2017- Special Visiting Professor, Universidade da Uberlândia, MG Brasil, CNPQ grant, 2015-2018.  
2012 - Research Visiting institute for Infocomm Research (I2R), Singapore  
2009 – Agregação - Faculdade de Engenharia, Universidade do Porto on Computing Science, Approved by unanimity.  
2007 – Visiting Professor University of Washington, Seattle  
2000 - PhD in Computer Science, University of Porto. Approved by unanimity.

**AWARDS, PRIZES AND HONOURS**

Fellow of the Asia-Pacific AI Association since 2022  
IEEE Fellow since 2021  
EurIA Fellow since 2020,

Richard H Moulton (University of Ottawa); Herna L Viktor (University of Ottawa); Nathalie Japkowicz (American University); Joao Gama (INESC TEC), *Clustering in the Presence of Concept Drift* Runner up for the best student data mining paper award, ECMLPKDD 2018

Brais Cancela, Veronica Bolon-Canedo, Amparo Alonso-Betanzos, João Gama, *Uso de técnicas de Saliency para Selección de Características* presented at XVIII Conferencia da Asociación Española

para la Inteligência Artificial (CAEPIA), Granada de 23 a 26 de outubro de 2018 won the Best Paper award at I Workshop en Deep Learning (DeepL 2018).

Won the Jean D'Alambert Grant from Telecom Paris Tech, 2017

Won the Santander Catedra of Excellence at Carlos III University, Madrid (2017)

Nominated Distinguished ACM Speaker for the period 2016-2019 and 2022-2025

Grant Special Visiting Researcher at Universidade Uberlandia - MG Brazil, from CNPq-Brasil for 3 years 2015-2018.

#### Recent INVITED KEYNOTE AND SPEAKER ADDRESSES

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Keynote at the **Workshop on Discovering Drift Phenomena in Evolving Data Landscape (DELTA)** at KDD 2024, Barcelona, August 2024

Keynote at the 11th conference LA-CCI Conference; Recife, Brasil, in November 2023

Keynote at the 11th conference Portuguese AI Conference; Lisbon, Portugal, in August 2022

Keynote at the 17th conference of the International Federation of Classification Societies; Porto, Portugal, in July 2022

Keynote at 10th International Conference on Complex Networks and Their Applications, Madrid, Spain, 2021

Keynote at XVIII Conference of the Spanish Association for Artificial Intelligence (CAEPIA), Granada, Spain, 2018.

Invited talk Knowledge discovery & social analytics at the 2017 Big Data Summit, IJCAI 2017, Melbourne, 20 August.

Invited talk Reasoning about the Learning Process at Workshop on Learning in the Presence of Class Imbalance and Concept Drift, IJCAI 2017, Melbourne,

Keynote Speaker Evolving Data evolving models, 16th International Conference on Artificial Intelligence and Soft Computing ICAISC 2017, June 2017

Keynote Speaker Real-Time Data Stream Mining, FIRST BILBAO DATA SCIENCE WORKSHOP, Basque Center for Applied Mathematics, DECEMBER 19-20

Plenary talk Real-Time Data Mining at 5th Brazilian Conference on Intelligent System BRACIS 2016, Recife, Brazil

#### COORDINATOR IN PROJECTS

Coordinator, from INESC TEC, of the EU project 952026 - HumanE-AI-Net ICT-48-2020-RIA (running)

Coordinator from INESC TEC, of the CHIST-ERA project XPM – Explainable Predictive Maintenance, 2021-2022

Coordinator, from INESC TEC; of the project ML-ABA with WEDO. This is a 1-year project of applied research.

Co-PI of the Project Early failure detection of public transport vehicles in operational context, DSAIPA/DS/0086/2018 funded by FCT. This is a 2-year research project with METRO Porto.

Coordinator at INESC of the European Project FET Flagship pre-proposal - HumanE AI Toward AI Systems That Augment and Empower Humans by Understanding Us, our Society and the World Around Us. Horizon 2020 - Future and Emergent Technologies.

Coordinator of the Portuguese team in the Portugal-India FCT 4755/ 3/5/2017, titled Network Analysis for Urban Planning. The Indian institution is IIT Mumbai, one of the best schools in India. This is a 3-year project that started in 2017.

Coordinator of WP2 in MAESTRA - Learning from Massive, incompletely annotated, and Structured Data, submitted to FP7-ICT-2013-X was accepted in August 2013. The project started on 1 February 2014. The project ended in September 2017.

Knowledge Discovery from Ubiquitous Data Streams, (PTDC/EIA/098355/2008), funded by FCT.

## **SUPERVISION AND TEACHING**

João Gama is involved in a set of courses at the U. of Porto to teach introductory material of machine learning, and data mining. He is also involved in a course on "Learning from Data Streams" at the Master and Ph.D. levels. He already supervised or co-supervised 21 Ph.D. students, most of them in topics related to learning from streaming and time-evolving data. He supervised more than 70 MSc students in the areas related to machine learning, and data mining.

He gave tutorials on topics related to data stream mining in major conferences including ACM SIGKDD 2016, 2017, 2018; CIKM 2016; IJCAI 2017, AAAI 2018, SIAM 2018, ECMLPKDD 2007, 2017, etc. He is conducting many applications of the methodology to the Portuguese Industry.

## **SERVICES TO THE COMMUNITY**

During the past 20 years, João Gama was involved in the Program Committee of several conferences. He used to be Area Chair at ECMLPKDD, Senior PC member at ACM SIGKDD, and IJCAI. He served as a PC member for IDA, DS, EPIA, Iberamia, BRACIS, CAEPIA, ECAI, and several workshops satellite of these conferences.

He served as a reviewer for European Research Council, and Science Foundations in Spain, Poland, Ireland, Czech Republic, Netherlands, Israel, New Zealand, Australia, Singapore, etc. He was a member of the evaluation board for FP7 and COST projects. He is a member of the Scientific Advisory Board of the Center of Excellence for Data Science and Cooperative Systems, University of Zagreb, Croatia.

He served in the Ph.D. jury in several Universities in Portugal, Spain, France, Italy, Slovenia, Netherlands, Sweden, Finland, Brazil, Australia, China, etc.

## **Member of the Editorial Board**

Intelligent Data Analysis, published by IOS Press, since 2002.

New Generation Computing, published by Ohmsha Ltd e Springer, since 2005;

Machine Learning, Associate Editor, published by Springer, since 2010.

Data Mining and Knowledge Discovery, published by Springer, since 2010

Knowledge and Information Systems, Associate Editor, published by Springer, since 2014.

Evolving Systems, Associate Editor, published by Springer, since 2014.

IEEE Transactions on Knowledge and Data Engineering (TKDE), Associate Editor since 2015.

## **Organization of Scientific Conferences**

Conference Chair and Journal track co-chair of the DSAA2017 - The 8th IEEE International Conference on Data Science and Advanced Analytics, Porto, October 2021

ACM Symposium on Applied Computing, Data Streams Track SAC Brno, Czech April 9 - 13, 2020

Program Co-Chair of 24th International Conference on Database Systems for Advanced Applications; 22-25 April 2019 Chiang Mai, Thailand

Program Co-Chair IEEE ICMLA 2018: 17th IEEE International Conference on Machine Learning And Applications, Orlando, Florida, December 2018

IoT Large Scale Machine Learning from Data Streams, Tutorial+Workshop at ECMLPKDD 2018, 10 September, Dublin

### **Editor of Special Issues in International Journals**

Special Issue on Foundations of Data Science with Machine Learning Journal, 2021

Special Issue on Knowledge Discovery from Mobility Data for Intelligent Transportation Systems, IEEE Transactions on Intelligent Transportations Systems, 2018- Editors L Moreira-Matias, J Gama, CO Montreal, R Nair

Special issue on Computational Models for Social and Technical Interactions at New Generation Computing (October 2017). Editors João Gama, Eugenio Oliveira.

### **RELEVANT PUBLICATIONS IN INTERNATIONAL JOURNALS WITH INDEPENDENT EVALUATION**

Brais Cancela, Veronica Bolon-Canedo, Amparo Alonso-Betanzos, João Gama, A saliency-based feature selection approach for big data, Knowledge-Based Systems, 192: 105326 (2020)

A Saadallah, L Moreira-Matias, R Sousa, J Khiari, E Jenelius, J Gama, BRIGHT-Drift-Aware Demand Predictions for Taxi Networks, IEEE Transactions on Knowledge and Data Engineering, 32(2): 234-245 (2020)

Carlos Ferreira, Vitor Santos Costa, João Gama, Contrasting Logical Sequences in Multi-Relational Learning, Progress in Artificial Intelligence, Springer, 8(4): 487-503 (2019)

Saulo RUIZ, Pedro GOMES Luis RODRIGUES and Joao GAMA, Credit Scoring for Microfinance Using Behavioral Data in Emerging Markets, IDA, IOS Press 23(6): 1355-1378 (2019)

J Lu, A Liu, F Dong, F Gu, J Gama, G Zhang, Learning under Concept Drift: A Review, IEEE Transactions on Knowledge and Data Engineering, 31(12): 2346-2363 (2019)

Sofia da Silva Fernandes, Hadi Fanaee-T, João Gama: Dynamic graph summarization: a tensor decomposition approach. Data Min. Knowl. Discov. 32(5): 1397-1420 (2018)

Fabiola S. F. Pereira, João Gama, Sandra de Amo, Gina M. B. Oliveira: On analyzing user preference dynamics with temporal social network. Machine Learning 107(11): 1745-1773 (2018)

Ricardo Sousa, João Gama: Multi-label classification from high-speed data streams with adaptive model rules and random rules. Progress in AI 7(3): 177-187; 2018

Juan Gabriel Colonna, João Gama, Eduardo Freire Nakamura: A comparison of hierarchical multi-output recognition approaches for anuran classification. Machine Learning 107(11): 1651-1671 (2018)

Shazia Tabassum, Fabiola Pereira, Sofia Fernandes, João Gama, Social Network Analysis: An Overview, WIREs Data Mining and Knowledge Discovery, Vol. 8(5) 2018

Pedro Pereira Rodrigues, João Araujo, João Gama, Lu s M. B. Lopes: A local algorithm to approximate the global clustering of streams generated in ubiquitous sensor networks. *IJDSN* 14(10) (2018)

João Vinagre, Alípio Mario Jorge, João Gama: Online bagging for recommender systems. *Expert Systems* 35(4) (2018)

Pawel Matuszyk, João Vinagre, Myra Spiliopoulou, Alípio Mario Jorge, João Gama: Forgetting techniques for stream-based matrix factorization in recommender systems. *Knowl. Inf. Syst.* 55(2): 275-304 (2018)

Douglas de O. Cardoso, João Gama, Felipe M. G. Franca: Weightless neural networks for open set recognition. *Machine Learning* 106(9-10): 1547-1567 (2017)

João Gama, Eugenio C. Oliveira, Henrique Lopes Cardoso: Computational Models for Social and Technical Interactions. *New Generation Comput.* 35(4): 307-310 (2017)

Douglas de O. Cardoso, Felipe M. G. Franca, João Gama: WCDS: A Two-Phase Weightless Neural System for Data Stream Clustering. *New Generation Comput.* 35(4): 391-416 (2017)

Bartosz Krawczyk, Leandro L. Minku, João Gama, Jerzy Stefanowski, Michal Wozniak: Ensemble learning for data stream analysis: A survey. *Information Fusion* 37: 132-156 (2017)

Raquel Sebastião, João Gama, Teresa Mendonca: Fading histograms in detecting distribution and concept changes. *I. J. Data Science and Analytics* 3(3): 183-212 (2017)

Jonathan de Andrade Silva, Eduardo Raul Hruschka, João Gama: An evolutionary algorithm for clustering data streams with a variable number of clusters. *Expert Syst. Appl.* 67: 228-238 (2017)

Rita P. Ribeiro, Pedro Mota Pereira, João Gama, Sequential anomalies: a study in the Railway Industry, *Machine Learning* 105(1): 127-153 (2016)

Elaine R. Faria, Isabel J. C. R. Goncalves, Andre C. P. L. F. de Carvalho, João Gama: Novelty detection in data streams. *Artif. Intell. Rev.* 45(2): 235-269 (2016)