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Research Interests

Machine Learning

Qualifications

PhD

Award Date: 1 Jan 2017

Employment

Lecturer

School of Computer Science
Technological University Dublin
3 Jun 2021 → present

Research outputs

Extended-stability Runge–Kutta solvers for Neural ODE: Faster, more stable training with predictable compute

Goodship, G. L., O'Sullivan, S. & Miralles-Pechuán, L., Jun 2026, In: Machine Learning with Applications. 24, 17 p., 100857.

Survey on AI-Generated Plagiarism Detection: The Impact of Large Language Models on Academic Integrity

Pudasaini, S., Miralles-Pechuán, L., Lillis, D. & Llorens Salvador, M., Sept 2025, In: Journal of Academic Ethics. 23, 3, p. 1137-1170 34 p.

Dynamic Heuristic Optimization in High-Order Runge–Kutta Schemes Using Reinforcement Learning and Genetic Algorithms

Goodship, G. L., O'Sullivan, S. & Miralles-Pechuan, L., 2025, In: IEEE Access. 13, p. 173752-173767 16 p.

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Predicting Dry Matter Intake in Lactating Crossbred Cows Under Semi-Arid Conditions Using an Error-Based Evolving Takagi-Sugeno Fuzzy Model

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The Digital Loophole: Evaluating the Effectiveness of Child Age Verification Methods on Social Media

Eltaher, F., Gajula, R. K., Miralles-Pechuán, L., Thorpe, C. & McKeever, S., 2025, In: International Conference on Information Systems Security and Privacy. 2, p. 213-222 10 p.

SafeRoute: A Safer Outdoor Navigation Algorithm with Smart Routing for People with Visual Impairment

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Addressing Class Imbalance in Healthcare Data: Machine Learning Solutions for Age-Related Macular Degeneration and Preeclampsia

Martinez-Velasco, A., Martinez -Villasenor, L. & Miralles-Pechuan, L., 2024, In: IEEE Latin America Transactions. 22, 10, p. 806-820 15 p.

Analyzing Morinda citrifolia's Potential for Haemonchus contortus Control in Lambs Using an Artificial Immune/Neural Approach

Silva, G. L. S., Oliveira, L. L. S., Silva, F. V., Camargos, M. O., Liborio, M. P., D'angelo, M. F. S. V., Caldeira, A. S. P., Miralles-Pechuan, L. & Rabiei, H., 2024, In: IEEE Access. 12, p. 122462-122473 12 p.

Explainable AI for 6G Use Cases: Technical Aspects and Research Challenges

Wang, S., Qureshi, M. A., Miralles-Pechuan, L., Huynh-The, T., Gadekallu, T. R. & Liyanage, M., 2024, In: IEEE Open Journal of the Communications Society. 5, p. 2490-2540 51 p.

Generalized Zero-Shot Learning for Action Recognition Fusing Text and Image GANs

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Genetic Algorithm-Accelerated Optimization for Runge-Kutta Scheme Derivation in High-Dimensional Problems With Hard Constraints

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Forecasting COVID-19 cases using dynamic time warping and incremental machine learning methods

Miralles-Pechuan, L., Kumar, A. & Suárez-Cetrulo, A. L., Jul 2023, In: Expert Systems. 40, 6, e13237.

Real-time bidding campaigns optimization using user profile settings

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Detecting Road Intersections from Satellite Images using Convolutional Neural Networks

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A Survey on Outdoor Navigation Applications for People With Visual Impairments

El-Taher, F. E. Z., Miralles-Pechuan, L., Courtney, J., Millar, K., Smith, C. & McKeever, S., 2023, In: IEEE Access. 11, p. 14647-14666 20 p.

An Alternative Auction System to Generalized Second-Price for Real-Time Bidding Optimized Using Genetic Algorithms

Miralles-Pechuan, L., Jiménez, F. & García, J. M., 2022, *Proceedings of 6th International Congress on Information and Communication Technology, ICICT 2021*. Yang, X.-S., Sherratt, S., Dey, N. & Joshi, A. (eds.). Springer Science and Business Media Deutschland GmbH, p. 83-107 25 p. (Lecture Notes in Networks and Systems; vol. 236).

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Identifying Internet of Things software activities using deep learning-based electromagnetic side-channel analysis

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Optimization of the Containment Levels for the Reopening of Mexico City due to COVID-19

Miralles-Pechuán, L., Ponce, H. & Martínez-Villaseñor, L., 1 Jun 2021, In: IEEE Latin America Transactions. 19, 6, p. 1065-1073 9 p.

Modelling the COVID-19 Virus Evolution With Incremental Machine Learning

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Zero-Shot Action Recognition with Knowledge Enhanced Generative Adversarial Networks

Huang, K., Miralles-Pechuan, L. & Mckeever, S., 2021, *IJCCI 2021 - Proceedings of the 13th International Joint Conference on Computational Intelligence*. Back, T., Wagner, C., Garibaldi, J., Lam, H. K., Cottrell, M., Merelo, J. J. & Warwick, K. (eds.). Science and Technology Publications, Lda, p. 254-264 11 p. (ICETE International Conference on E-Business and Telecommunication Networks (International Joint Conference on Computational Intelligence); vol. 2021-October).

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A Survey on Freezing of Gait Detection and Prediction in Parkinson's Disease

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Valve Health Identification Using Sensors and Machine Learning Methods

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The relevance of cataract as a risk factor for age-related macular degeneration: A machine learning approach

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VHI: Valve health identification for the maintenance of subsea industrial equipment

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Machine learning approach for pre-eclampsia risk factors association

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Human activity recognition on mobile devices using artificial hydrocarbon networks

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A methodology based on Deep Learning for advert value calculation in CPM, CPC and CPA networks

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A flexible approach for human activity recognition using artificial hydrocarbon networks

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Machine learning method to establish the connection between age related macular degeneration and some genetic variations

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