# 10th International Conference on Control, Automation and Diagnosis
## July 7-9, 2026 in Lisbon, Portugal.
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ICCAD'26

**CALL FOR PAPERS**
**SPECIAL SESSION ON**
**Recent Advances in Feature Selection, Dimensionality Reduction, and Classification Techniques**
**-Theory and Applications-**
**for ICCAD 2026**
**July 7-9, 2026, Lisbon, Portugal**

**Session Co-Chairs:**

- Radhia Nefzi Houilmi, University of Jendouba, Tunisia.

- Jaouher Ben Ali, University of Tunis, Tunisia.

- Yu Xue, Nanjing University of Information Science and Technology, China.

**Session description:**

The rapid growth of high-dimensional and heterogeneous data across scientific, industrial, and societal domains has intensified the need for advanced techniques in feature selection, dimensionality reduction, and classification. Efficient feature engineering plays a critical role in improving predictive performance, reducing computational complexity, enhancing interpretability, and ensuring robustness in modern machine learning systems.

This Special Session aims to bring together researchers and practitioners working on the theoretical foundations and practical applications of feature optimization and classification methods. The session will focus on novel mathematical models, optimization strategies, scalable algorithms, and real-world implementations addressing challenges in high-dimensional data analysis.

Topics of interest include, but are not limited to:

✓ Theoretical advances in filter, wrapper, and embedded feature selection methods;
✓ Sparse learning, regularization techniques, and stability analysis;
✓ Metaheuristic and evolutionary optimization for feature selection;
✓ Linear and nonlinear dimensionality reduction techniques;
✓ Representation learning and deep feature extraction;
✓ Graph-based and manifold learning approaches;
✓ Ensemble learning and advanced classification frameworks;
✓ Explainable and interpretable feature selection methods;
✓ Robust and adversarial feature learning;
✓ Online and streaming feature selection;
✓ Federated and privacy-preserving feature selection;
✓ Applications in healthcare, bioinformatics, cybersecurity, finance, IoT, smart cities, and industrial systems.

The session encourages submissions that integrate theoretical rigor with experimental validation and real-world case studies. Interdisciplinary contributions bridging statistics, optimization, artificial intelligence, and applied machine learning are particularly welcome.

This Special Session aims to foster discussion on emerging trends, open challenges, and future research directions in feature engineering and intelligent classification systems.

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**SUBMISSION**

Papers must be submitted electronically for peer review by**: Mars 31, 2026**
https://www.iccad-conf.com/submission/

All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).