
Intuitionistic Fuzzy Clustering

Totale articoli: **76** (/158)

- Metodi Generali (fuzzy c-means) [29]
- Metodi Generali (altri approcci) [14]
- Metodi Specifici (ambito medico) [7]
- Metodi Specifici (image segmentation) [22]
- Metodi Specifici (altro/vari) [4]

(Gli articoli i cui titolo sono preceduti da ★ [14] sono articoli che ho trovato particolarmente pertinenti e/o interessanti, in base al titolo e l'estratto).

Metodi Generali (fuzzy c-means) [29]

[1] ★ An equidistance index intuitionistic fuzzy c-means clustering algorithm based on local density and membership degree boundary

Applied Intelligence

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85186175624&doi=10.1007%2fs10489-024-05297-1&partnerID=40&md5=d57c8deaa97d1af79de4aac52b54c920)

[s2.0-85186175624&doi=10.1007%2fs10489-024-05297-1&partnerID=40&md5=d57c8deaa97d1af79de4aac52b54c920](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85186175624&doi=10.1007%2fs10489-024-05297-1&partnerID=40&md5=d57c8deaa97d1af79de4aac52b54c920)

“a novel algorithm named equidistance index IFCM (EI-IFCM) is proposed for improving shortcomings of the IFCM”

[2] ★ Weighted Intuitionistic Fuzzy C-Means Clustering Algorithms

International Journal of Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85184186599&doi=10.1007%2fs40815-023-01644-5&partnerID=40&md5=6a0124fde29c1291190d897f8f330464)

[s2.0-85184186599&doi=10.1007%2fs40815-023-01644-5&partnerID=40&md5=6a0124fde29c1291190d897f8f330464](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85184186599&doi=10.1007%2fs40815-023-01644-5&partnerID=40&md5=6a0124fde29c1291190d897f8f330464)

“a singly weighted data-driven algorithm called uni-weighted intuitionistic fuzzy C-means (uW-IFCM), (2) two variables-based weight triplets introduce bi-weighted probabilistic intuitionistic fuzzy C-means algorithm (bW-PIFCM)”

[3] Global intuitionistic fuzzy weighted C-ordered means clustering algorithm

Information Sciences, 642, art. no. 119087

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85162267836&doi=10.1016%2fj.ins.2023.119087&partnerID=40&md5=7b454316dfe627f6eada02434f66aa12)

[s2.0-85162267836&doi=10.1016%2fj.ins.2023.119087&partnerID=40&md5=7b454316dfe627f6eada02434f66aa12](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85162267836&doi=10.1016%2fj.ins.2023.119087&partnerID=40&md5=7b454316dfe627f6eada02434f66aa12)

“The paper also presents a new clustering algorithm, called Global Intuitionistic Fuzzy Weighted C-Ordered Means (Global-IFWCOM)”

[4] Density-based IFCM along with its interval valued and probabilistic extensions, and a review of intuitionistic fuzzy clustering methods

Artificial Intelligence Review, 56 (4), pp. 3755 - 3795

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85138070906&doi=10.1007%2fs10462-022-10236-y&partnerID=40&md5=1cf9c694c373a795e444569bc55dc725>

“a new novel density-based algorithm over IFCM, called Density based-IFCM (DIFCM) is proposed”

[5] ★ Novel Adaptive Clustering Algorithms Based on a Probabilistic Similarity Measure over Atanassov Intuitionistic Fuzzy Set

IEEE Transactions on Fuzzy Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85048599468&doi=10.1109%2ftfuzz.2018.2848245&partnerID=40&md5=9a1817b65c5336343b9073974e1dbf0f>

“This paper presents a novel probabilistic similarity measure (PSM) for Atanassov intuitionistic fuzzy sets. [...] the probabilistic distance measure (obtained from the PSM) is used to develop a new clustering technique, which we have named 'probabilistic intuitionistic fuzzy c-mean (PIFCM) algorithm'.”

[6] Intuitionistic Fuzzy c-Ordered Means Clustering Algorithm

IEEE Access, 10, pp. 26271 - 26281

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85125710353&doi=10.1109%2fACCESS.2022.3155869&partnerID=40&md5=775d75f509b2d049294e04e6b36b94b5>

“In the paper, an extension of the algorithm given by Leski, Jacek M. [Fuzzy Sets and Systems, 286 (2016): 114-133] is proposed as intuitionistic fuzzy c -ordered means clustering algorithm”

[7] Modified Probabilistic Intuitionistic Fuzzy c-Means Clustering Algorithm: MPIFCM

IEEE International Conference on Fuzzy Systems, 2022-July

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85138779434&doi=10.1109%2ftfuzz-IEEE55066.2022.9882890&partnerID=40&md5=a20b60e6f5ec792d93b4a124998b13db>

“In this paper, we modify the membership function by adding the hesitation component to the IPIFCM clustering algorithm's objective function to propose 'Modified Improved Probabilistic Intuitionistic Fuzzy c-Means' (MPIFCM) clustering algorithm”

[8] ★ P-IT2IFCM: Probabilistic Interval Type-2 Intuitionistic Fuzzy c-Means Clustering Algorithm

IEEE International Conference on Fuzzy Systems, 2022-July

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85138813811&doi=10.1109%2ftfuzz-IEEE55066.2022.9882807&partnerID=40&md5=806e624a2bd37d306c99692fad722dcb>

“this paper proposes the 'Probabilistic Interval Type-2 Intuitionistic clustering algorithm' (P-IT2IFCM), which uses the interval probabilistic weights for PEDM to propose 'Interval Type-2 Probabilistic Euclidean Distance Measure' (IT2PEDM)”

[9] Generalized intuitionistic fuzzy c-means clustering algorithm using an adaptive intuitionistic fuzzification technique

Granular Computing, 7 (1), pp. 183 - 195

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85108003823&doi=10.1007%2fs41066-021-00259-1&partnerID=40&md5=eb3d21f8b22f5fa1aa9cc126449c7ab0>

"In the paper, we propose an intuitionistic fuzzy-based algorithm, namely Generalized Intuitionistic Fuzzy c-Means (G-IFCM) clustering algorithm which uses an adaptive AIFS Euclidean distance measure in its criterion function to cluster the dataset under intuitionistic fuzzy environment"

[10] Kernel intuitionistic fuzzy c-means and state transition algorithm for clustering problem

Soft Computing, 24 (20), pp. 15507 - 15518

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082814560&doi=10.1007%2fs00500-020-04879-8&partnerID=40&md5=7f9187755fce3271af2c20668f8389ff)

[s2.0-85082814560&doi=10.1007%2fs00500-020-04879-8&partnerID=40&md5=7f9187755fce3271af2c20668f8389ff](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85082814560&doi=10.1007%2fs00500-020-04879-8&partnerID=40&md5=7f9187755fce3271af2c20668f8389ff)

"the traditional FCM taking Euclidean distance as similarity measurement can not distinguish the intersection between two clusters [...] Thus, Kernel intuitionistic fuzzy c-means (KIFCM) has been proposed in this paper to settle clustering problem"

[11] ★ Intuitionistic fuzzy c-means clustering algorithm based on a novel weighted proximity measure and genetic algorithm

International Journal of Machine Learning and Cybernetics, 12 (3), pp. 859 - 875

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85092277443&doi=10.1007%2fs13042-020-01206-3&partnerID=40&md5=04b7eab5e0c6032746ce8d100c0ead0d)

[s2.0-85092277443&doi=10.1007%2fs13042-020-01206-3&partnerID=40&md5=04b7eab5e0c6032746ce8d100c0ead0d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85092277443&doi=10.1007%2fs13042-020-01206-3&partnerID=40&md5=04b7eab5e0c6032746ce8d100c0ead0d)

"we propose an improved IFCM clustering technique in this paper. [...] a novel weighted proximity measure [...] is proposed to evaluate not only the closeness degree but also the linear relationship between two objects. [...] genetic algorithms are utilized for identifying the optimal parameters."

[12] An Improved Fuzzy C-Means Clustering Algorithm Based on Intuitionistic Fuzzy Sets

Advances in Intelligent Systems and Computing, 1143, pp. 333 - 345

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85088291852&doi=10.1007%2f978-981-15-3753-0_32&partnerID=40&md5=6a2959d65fea5e5e325801ec61d9d721)

[s2.0-85088291852&doi=10.1007%2f978-981-15-3753-0_32&partnerID=40&md5=6a2959d65fea5e5e325801ec61d9d721](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85088291852&doi=10.1007%2f978-981-15-3753-0_32&partnerID=40&md5=6a2959d65fea5e5e325801ec61d9d721)

"this paper proposes a fuzzy C-means clustering algorithm (FCM)-based on intuitionistic fuzzy sets for the inaccuracy in real clustering problems"

[13] Fuzzy clustering based on distance metric under intuitionistic fuzzy environment

Granular Computing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85182212704&doi=10.1007%2fs41066-023-00446-2&partnerID=40&md5=ff5a5d1ab75dd12fe5e9bfa4b6e8b211)

[s2.0-85182212704&doi=10.1007%2fs41066-023-00446-2&partnerID=40&md5=ff5a5d1ab75dd12fe5e9bfa4b6e8b211](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85182212704&doi=10.1007%2fs41066-023-00446-2&partnerID=40&md5=ff5a5d1ab75dd12fe5e9bfa4b6e8b211)

"this study suggests an enhanced variant of the fuzzy c-means clustering technique within the framework of an intuitionistic fuzzy environment"

[14] Noise robust intuitionistic fuzzy c-means clustering algorithm incorporating local information

IET Image Processing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101029790&doi=10.1049%2fipr2.12064&partnerID=40&md5=f0537aebd819227525301bdcc2951a2e)

[s2.0-85101029790&doi=10.1049%2fipr2.12064&partnerID=40&md5=f0537aebd819227525301bdcc2951a2e](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101029790&doi=10.1049%2fipr2.12064&partnerID=40&md5=f0537aebd819227525301bdcc2951a2e)

"we propose a noise robust intuitionistic fuzzy c-means (NR-IFCM) algorithm, which can handle noise and uncertainty problems simultaneously"

[15] Improved probabilistic intuitionistic fuzzy c-means clustering algorithm: Improved PIFCM

IEEE International Conference on Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85090494889&doi=10.1109%2fFUZZ48607.2020.9177574&partnerID=40&md5=7fad812bd48e319078831e3efe3a119a)

[s2.0-85090494889&doi=10.1109%2fFUZZ48607.2020.9177574&partnerID=40&md5=7fad812bd48e319078831e3efe3a119a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85090494889&doi=10.1109%2fFUZZ48607.2020.9177574&partnerID=40&md5=7fad812bd48e319078831e3efe3a119a)

"In this paper, we propose some novel changes in the existing PIFCM algorithm, and hence introduce our Improved PIFCM algorithm"

[16] A new Semi-Supervised Intuitionistic Fuzzy C-means Clustering

EAI Endorsed Transactions on Scalable Information Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85119021274&doi=10.4108%2feai.13-7-2018.159622&partnerID=40&md5=3fb3925d3fc972490b95b6e6fc14f7e8)

[s2.0-85119021274&doi=10.4108%2feai.13-7-2018.159622&partnerID=40&md5=3fb3925d3fc972490b95b6e6fc14f7e8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85119021274&doi=10.4108%2feai.13-7-2018.159622&partnerID=40&md5=3fb3925d3fc972490b95b6e6fc14f7e8)

"In this paper, we have proposed to embed the concept of intuitionistic fuzzy set theory with semi-supervised approach to further improve the clustering process"

[17] Kernel-Distance-Based Intuitionistic Fuzzy c-Means Clustering Algorithm and Its Application

Pattern Recognition and Image Analysis

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85077073779&doi=10.1134%2fS1054661819040199&partnerID=40&md5=cda77b7ce899b50bcfc39180fd5301da)

[s2.0-85077073779&doi=10.1134%2fS1054661819040199&partnerID=40&md5=cda77b7ce899b50bcfc39180fd5301da](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85077073779&doi=10.1134%2fS1054661819040199&partnerID=40&md5=cda77b7ce899b50bcfc39180fd5301da)

"Based on the fuzzy c-means clustering algorithm, a kernel-distance-based intuitionistic fuzzy c-means clustering (KIFCM) algorithm is proposed"

[18] A Kernel-Based Intuitionistic Fuzzy C-Means Clustering Using Improved Multi-Objective Immune Algorithm

IEEE Access

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068871109&doi=10.1109%2fACCESS.2019.2924957&partnerID=40&md5=e86a5749f5e38b0f88c54e0024bf6ad6)

[s2.0-85068871109&doi=10.1109%2fACCESS.2019.2924957&partnerID=40&md5=e86a5749f5e38b0f88c54e0024bf6ad6](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068871109&doi=10.1109%2fACCESS.2019.2924957&partnerID=40&md5=e86a5749f5e38b0f88c54e0024bf6ad6)

"In this paper, a kernel-based intuitionistic fuzzy C-means clustering using improved multi-objective artificial immune algorithm (KIFCM-IMOIA) is proposed"

[19] An intuitionistic fuzzy possibilistic C-means clustering based on genetic algorithm

2016 IEEE Congress on Evolutionary Computation, CEC 2016

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008256397&doi=10.1109%2fCEC.2016.7743891&partnerID=40&md5=67d2cada716a395772b2c45ce7bdc5b8)

[s2.0-85008256397&doi=10.1109%2fCEC.2016.7743891&partnerID=40&md5=67d2cada716a395772b2c45ce7bdc5b8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85008256397&doi=10.1109%2fCEC.2016.7743891&partnerID=40&md5=67d2cada716a395772b2c45ce7bdc5b8)

"this paper presents an intuitionistic fuzzy possibilistic C-means clustering based on genetic algorithm (IFPCM-GA). IFPCM-GA does not only retain the advantages of FPCM, but also uses a kernel function to replace the Euclidean distance to enhance the robustness of the algorithm"

[20] Interval type-2 fuzzy c-means clustering using intuitionistic fuzzy sets

2013 3rd World Congress on Information and Communication Technologies, WICT 2013

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84949927422&doi=10.1109%2fWICT.2013.7113152&partnerID=40&md5=f6961e50bf3368996aa424966704a640)

[s2.0-84949927422&doi=10.1109%2fWICT.2013.7113152&partnerID=40&md5=f6961e50bf3368996aa424966704a640](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84949927422&doi=10.1109%2fWICT.2013.7113152&partnerID=40&md5=f6961e50bf3368996aa424966704a640)

"Intuitionistic fuzzy sets (IFS) and intuitionistic type-2 fuzzy sets (InIT2FS) were introduced with the aim to better handle the uncertainty. we have combined them with fuzzy clustering algorithms to overcome some drawbacks of the 'conventional' FCM in handling uncertainty"

[21] An intuitionistic fuzzy approach to fuzzy clustering of numerical dataset

Advances in Intelligent Systems and Computing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917689035&doi=10.1007%2f978-81-322-1680-3_9&partnerID=40&md5=a6284a8dafdfd98d8f37aee012aafe89)

[s2.0-84917689035&doi=10.1007%2f978-81-322-1680-3_9&partnerID=40&md5=a6284a8dafdfd98d8f37aee012aafe89](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84917689035&doi=10.1007%2f978-81-322-1680-3_9&partnerID=40&md5=a6284a8dafdfd98d8f37aee012aafe89)

"This paper focuses mainly on two aspects. Firstly, it proposes an intuitionistic fuzzy representation (IFR) scheme for numerical dataset and applies the modified FCM clustering for clustering intuitionistic fuzzy (IF) data [...]"

[22] ★ A novel evolutionary kernel intuitionistic fuzzy C-means clustering algorithm

IEEE Transactions on Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84908011223&doi=10.1109%2fTFUZZ.2013.2280141&partnerID=40&md5=bb04a4dc5dbedd83f97bf2e1e90f7a88)

[s2.0-84908011223&doi=10.1109%2fTFUZZ.2013.2280141&partnerID=40&md5=bb04a4dc5dbedd83f97bf2e1e90f7a88](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84908011223&doi=10.1109%2fTFUZZ.2013.2280141&partnerID=40&md5=bb04a4dc5dbedd83f97bf2e1e90f7a88)

"This study proposes a novel evolutionary kernel intuitionistic fuzzy c-means clustering algorithm (EKIFCM) that combines Atanassov's intuitionistic fuzzy sets (IFSs) with kernel-based fuzzy c-means (KFCM), and genetic algorithms (GA) are optimally used simultaneously to select the parameters of the EKIFCM"

[23] A new intuitionistic fuzzy c-means clustering algorithm

Proceedings - 2013 International Conference on Mechatronic Sciences, Electric Engineering and Computer, MEC 2013

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84918525380&doi=10.1109%2fMEC.2013.6885230&partnerID=40&md5=30ca1e251fe06f18db7b71a0fabbc9d9)

[s2.0-84918525380&doi=10.1109%2fMEC.2013.6885230&partnerID=40&md5=30ca1e251fe06f18db7b71a0fabbc9d9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84918525380&doi=10.1109%2fMEC.2013.6885230&partnerID=40&md5=30ca1e251fe06f18db7b71a0fabbc9d9)

"This paper presents a new intuitionistic fuzzy c-means (IFCM) clustering algorithm by adapting a new method to calculate the hesitation degree of data point in cluster"

[24] Improved fuzzy clustering method based on intuitionistic fuzzy particle swarm optimization

Journal of Theoretical and Applied Information Technology

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84898461506&partnerID=40&md5=5c9e18934ab1832aef38da105a01fdf9)

[s2.0-84898461506&partnerID=40&md5=5c9e18934ab1832aef38da105a01fdf9](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84898461506&partnerID=40&md5=5c9e18934ab1832aef38da105a01fdf9)

"This paper proposes a hybrid approach for clustering high dimensional data set using FCM and Intuitionistic Fuzzy Particle Swarm Optimization (IFPSO) to overcome the local convergence problem"

[25] ★ Novel intuitionistic fuzzy c-means clustering for linearly and nonlinearly separable data

WSEAS Transactions on Computers

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84866998753&partnerID=40&md5=19a435893f8cc5f239921a508c92b944)

[s2.0-84866998753&partnerID=40&md5=19a435893f8cc5f239921a508c92b944](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84866998753&partnerID=40&md5=19a435893f8cc5f239921a508c92b944)

"This paper presents a robust Intuitionistic Fuzzy c-means (IFCM- σ) in the data space and a robust kernel Intuitionistic Fuzzy C-means (KIFCM- σ) algorithm in the high-dimensional feature space with a new distance metric to improve the performance of Intuitionistic Fuzzy C-means (IFCM)"

[26] Approach to intuitionistic fuzzy clustering based on weighted sample sets

2010 International Conference on Computational Intelligence and Software Engineering, CiSE 2010

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-79951632116&doi=10.1109%2fCISE.2010.5677036&partnerID=40&md5=9de95ada05ed6fa984e31507f1ddd718)

[s2.0-79951632116&doi=10.1109%2fCISE.2010.5677036&partnerID=40&md5=9de95ada05ed6fa984e31507f1ddd718](https://www.scopus.com/inward/record.uri?eid=2-s2.0-79951632116&doi=10.1109%2fCISE.2010.5677036&partnerID=40&md5=9de95ada05ed6fa984e31507f1ddd718)

“To improve performance of intuitionistic fuzzy clustering for large sample sets, the concepts of equivalent samples and weighted sample sets based on intuitionistic fuzzy sets is defined.”

[27] Intuitionistic fuzzy C-means clustering algorithms

Journal of Systems Engineering and Electronics

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77958600084&doi=10.3969%2fj.issn.1004-4132.2010.04.009&partnerID=40&md5=8c81121550f3e314e471efd3995cf7)

[s2.0-77958600084&doi=10.3969%2fj.issn.1004-4132.2010.04.009&partnerID=40&md5=8c81121550f3e314e471efd3995cf7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77958600084&doi=10.3969%2fj.issn.1004-4132.2010.04.009&partnerID=40&md5=8c81121550f3e314e471efd3995cf7)

“An intuitionistic fuzzy C-means algorithm to cluster IFSs is developed”

[28] ★ Robust intuitionistic fuzzy C-means clustering for linearly and nonlinearly separable data

ICIIP 2011 - Proceedings: 2011 International Conference on Image Information Processing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84855964005&doi=10.1109%2fICIIP.2011.6108908&partnerID=40&md5=12bcfb81ee37ba9d95b014c645b93115)

[s2.0-84855964005&doi=10.1109%2fICIIP.2011.6108908&partnerID=40&md5=12bcfb81ee37ba9d95b014c645b93115](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84855964005&doi=10.1109%2fICIIP.2011.6108908&partnerID=40&md5=12bcfb81ee37ba9d95b014c645b93115)

“This paper present a robust Intuitionistic Fuzzy c-means(IFCM- σ) and a robust kernel Intuitionistic Fuzzy C-Means(KIFCM- σ) with a new distance metric that incorporates the distance variation in a cluster to regularize the distance between data point and the cluster centroid”

[29] Clustering algorithm for intuitionistic fuzzy sets

Information Sciences

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-47849132766&doi=10.1016%2fj.ins.2008.06.008&partnerID=40&md5=64b72a3ab93f6f2048492b5ea77850df)

[s2.0-47849132766&doi=10.1016%2fj.ins.2008.06.008&partnerID=40&md5=64b72a3ab93f6f2048492b5ea77850df](https://www.scopus.com/inward/record.uri?eid=2-s2.0-47849132766&doi=10.1016%2fj.ins.2008.06.008&partnerID=40&md5=64b72a3ab93f6f2048492b5ea77850df)

“In this paper, we define the concepts of association matrix and equivalent association matrix, and introduce some methods for calculating the association coefficients of IFSs. Then, we propose a clustering algorithm for IFSs”

Metodi Generali (altri approcci) [14]

[1] PIFHC: The Probabilistic Intuitionistic Fuzzy Hierarchical Clustering Algorithm

Applied Soft Computing, 120, art. no. 108584

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85126576488&doi=10.1016%2fj.asoc.2022.108584&partnerID=40&md5=ac5a76fc076d4939c6a38bf325e72c3)

[s2.0-85126576488&doi=10.1016%2fj.asoc.2022.108584&partnerID=40&md5=ac5a76fc076d4939c6a38bf325e72c3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85126576488&doi=10.1016%2fj.asoc.2022.108584&partnerID=40&md5=ac5a76fc076d4939c6a38bf325e72c3)

“This paper presents a novel hierarchical clustering technique which considers intuitionistic fuzzy sets to deal with the uncertainty present in the data”

[2] ★ Intuitionistic fuzzy density based spatial clustering of applications with noise: IFDBSCAN

Advances in Intelligent Systems and Computing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85069515706&doi=10.1007%2f978-3-030-23756-1_9&partnerID=40&md5=345f711a7b6c431cd263b3469df2fc6b)

[s2.0-85069515706&doi=10.1007%2f978-3-030-23756-1_9&partnerID=40&md5=345f711a7b6c431cd263b3469df2fc6b](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85069515706&doi=10.1007%2f978-3-030-23756-1_9&partnerID=40&md5=345f711a7b6c431cd263b3469df2fc6b)

“intuitionistic fuzzy core point definition makes DBSCAN algorithm capable to detect different patterns of density by two different combinations of input parameters. In this study, a DBSCAN extension is proposed based on this idea: IFDBSCAN”

[3] ★ Interval intuitionistic fuzzy clustering algorithm based on symmetric information entropy

Symmetry

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85084050867&doi=10.3390%2fSYM12010079&partnerID=40&md5=1c4fcd427ebf2241d6ee7090a271ec34>

“Based on the continuous optimal aggregation operator, a novel distance measure is proposed to deal with interval intuitionistic fuzzy clustering problems”

[4] Intuitionistic fuzzy hierarchical clustering algorithms

Journal of Systems Engineering and Electronics

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-77957605917&partnerID=40&md5=e19e13fb7290edd89761323c752529f8>

“An intuitionistic fuzzy hierarchical algorithm is introduced for clustering IFSs, which is based on the traditional hierarchical clustering procedure, the intuitionistic fuzzy aggregation operator, and the basic distance measures between IFSs”

[5] Clustering of categorical data using intuitionistic fuzzy k-modes

Advances in Intelligent Systems and Computing

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85014363678&doi=10.1007%2f978-981-10-3322-3_24&partnerID=40&md5=84df1d191dbe93da0178c4d5525357c4

“This correspondence describes an intuitionistic fuzzy k-modes algorithm for clustering categorical data and establishes it to be more efficient than the fuzzy k-modes algorithm”

[6] ★ Application of genetic algorithm based intuitionistic fuzzy k-mode for clustering categorical data

Cybernetics and Information Technologies

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034778753&doi=10.1515%2fcit-2017-0044&partnerID=40&md5=2d736dca83f6119d5a9b170d7bb57d42>

“This model is an extension of intuitionistic fuzzy k-Mode in which the notion of fitness related objective functions, crossovers, mutations and probability has been added to provide better clusters for the data objects.”

[7] Research on PSO-based intuitionistic fuzzy kernel clustering algorithm

Tongxin Xuebao/Journal on Communications

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84931303080&doi=10.11959%2fj.issn.1000-436x.2015099&partnerID=40&md5=2ebd31c8356ec68c0915d7481374ba5d>

“the particle swarm optimization (PSO) algorithm with powerful ability of global search and quick convergence rate is applied to intuitionistic fuzzy clustering”

[8] A novel clustering algorithm based on a new similarity measure over Intuitionistic fuzzy sets

IEEE International Conference on Fuzzy Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84975706405&doi=10.1109%2fFUZZ-IEEE.2015.7337946&partnerID=40&md5=53abe82e790512b0847eb68db20b8bf3>

“whenever we try to measure similarity between the IFSs using the various distance measures [...] we often notice that all of them fails to describe the underlying situation completely. [...] we introduce a new similarity measure by properly defining a similarity degree through the result established in this paper”

[9] Clustering based on k-I divergence under intuitionistic fuzzy environment

ICIC Express Letters

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84932179443&partnerID=40&md5=8993ca00699ec5175e183fdb83384aba>

“we present a clustering method based on K-L divergence within the framework of IFSs”

[10] Techniques for intuitionistic fuzzy kernel clustering based on particle swarm optimization

International Conference on Signal Processing Proceedings, ICSP

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84937863896&doi=10.1109%2fICOSP.2014.7015248&partnerID=40&md5=40f888ea69b308431bed1a30419a7288>

“the particle swarm optimization (PSO) algorithm with powerful ability of global search and quick convergence rate is applied to Intuitionistic fuzzy clustering”

[11] A spectral clustering algorithm based on intuitionistic fuzzy information

Knowledge-Based Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84885425398&doi=10.1016%2fj.knosys.2013.07.020&partnerID=40&md5=d1f21643e976f7d8213471567a600cad>

“We first define two new intuitionistic fuzzy similarity measures, and then use it to construct an intuitionistic fuzzy similarity measure matrix, by which we present a spectral algorithm to cluster intuitionistic fuzzy information”

[12] ★ Intuitionistic fuzzy clustering algorithm based on boole matrix and association measure

International Journal of Information Technology and Decision Making

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84874802048&doi=10.1142%2fS0219622013500053&partnerID=40&md5=de8ce408eb75dfe3babecf94a4afface>

“In this paper we develop a measure for calculating the association coefficient between Atanassov's intuitionistic fuzzy sets (A-IFSs), and show its desirable axiomatic properties. Then we present an algorithm for clustering A-IFSs.”

[13] ★ Intuitionistic fuzzy MST clustering algorithms

Computers and Industrial Engineering

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84862798590&doi=10.1016%2fj.cie.2012.01.007&partnerID=40&md5=6dc06b5c58152f112d202c0ea4f474e9>

“In this paper, we investigate graph theory-based clustering techniques for Atanassov's intuitionistic fuzzy sets (A-IFSs) and interval-valued intuitionistic fuzzy sets (IVIFSs)”

[14] ★ An orthogonal algorithm for clustering intuitionistic fuzzy information

Information

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-84860122092&partnerID=40&md5=7fc591e21d0d5339a346bb293ad64dfb>

“Based on the orthogonal of intuitionistic fuzzy vectors, we propose an orthogonal algorithm for clustering intuitionistic fuzzy information”

Metodi Specifici (ambito medico) [7]

[1] A soft clustering approach for segmenting brain tumor in intuitionistic fuzzy environment

Biomedical Signal Processing and Control

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85183968924&doi=10.1016%2fj.bspc.2024.105996&partnerID=40&md5=96537b447c00427d86c072f26c797180>

“it is clustered by formulating the novel clustering algorithm called effective intuitionistic fuzzy c-means clustering (EIFCM) to procure the segmented result”

[2] A novel type-II intuitionistic fuzzy clustering algorithm for mammograms segmentation

Journal of Ambient Intelligence and Humanized Computing

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85137075806&doi=10.1007%2fs12652-022-04022-5&partnerID=40&md5=5123a8f9c946906c890aa1782a31ec16>

“This paper proposes a novel Type-II Intuitionistic Fuzzy C Means clustering algorithm by introducing a new membership degree called Intuitionistic Type-II membership”

[3] A novel enhancement-based rapid kernel-induced intuitionistic fuzzy c-means clustering for brain tumor image

Soft Computing

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85180667098&doi=10.1007%2fs00500-023-09533-7&partnerID=40&md5=f4c35a4376e0d1f40340129e8c0e1989>

“a new approach of clustering brain tumor MR image is proposed to segment brain tumor image”

[4] An improved crow search based intuitionistic fuzzy clustering algorithm for healthcare applications

Intelligent Automation and Soft Computing

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85090542158&doi=10.31209%2f2019.100000155&partnerID=40&md5=7747906b7e52cc98b576c72871147ced>

“Crow search algorithm is hybridized with Intuitionistic fuzzy C-means to attain better results than the existing hybrid algorithms”

[5] An intuitionistic fuzzy clustering algorithm based on a new correlation coefficient with application in medical diagnosis

Journal of Intelligent and Fuzzy Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062043125&doi=10.3233%2fJIFS-181084&partnerID=40&md5=78bd4da8efe518a04533d7ddbecf7211>

“In this paper, we propose a new correlation coefficient between intuitionistic fuzzy sets.”

[6] Intuitionistic fuzzy color clustering of human cell images on different color models

Journal of Intelligent and Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84861367193&doi=10.3233%2fJFS-2012-0494&partnerID=40&md5=11dc426c733fca7b7f5cf41ad1589fe8)

[s2.0-84861367193&doi=10.3233%2fJFS-2012-0494&partnerID=40&md5=11dc426c733fca7b7f5cf41ad1589fe8](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84861367193&doi=10.3233%2fJFS-2012-0494&partnerID=40&md5=11dc426c733fca7b7f5cf41ad1589fe8)

“The clustering algorithm clusters the blood cells very clearly that helps in detecting various types of human diseases”

[7] A novel intuitionistic fuzzy c means color clustering on human cell images

2009 World Congress on Nature and Biologically Inspired Computing, NABIC 2009 - Proceedings

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77949590294&doi=10.1109%2fNABIC.2009.5393559&partnerID=40&md5=63d33038e1844b429ccfad7eb720a72d)

[s2.0-77949590294&doi=10.1109%2fNABIC.2009.5393559&partnerID=40&md5=63d33038e1844b429ccfad7eb720a72d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-77949590294&doi=10.1109%2fNABIC.2009.5393559&partnerID=40&md5=63d33038e1844b429ccfad7eb720a72d)

“This paper addresses a novel issue of intuitionistic fuzzy c means color clustering using intuitionistic fuzzy set theory”

Metodi Specifici (image segmentation) [22]

[1] Intuitionistic fuzzy information-driven total Bregman divergence fuzzy clustering with multiple local information constraints for image segmentation

Visual Computer, 39 (1), pp. 149 - 181

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118989467&doi=10.1007%2fs00371-021-02319-8&partnerID=40&md5=cca7d9d5a1c3f1b1961d4be400804063)

[s2.0-85118989467&doi=10.1007%2fs00371-021-02319-8&partnerID=40&md5=cca7d9d5a1c3f1b1961d4be400804063](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85118989467&doi=10.1007%2fs00371-021-02319-8&partnerID=40&md5=cca7d9d5a1c3f1b1961d4be400804063)

“we will explore a novel intuitionistic fuzzy clustering-related segmentation algorithm with strong robustness”

[2] Center-free intuitionistic fuzzy c-means clustering algorithm based on similarity of hybrid spatial membership for image segmentation

Proceedings - 2023 5th International Conference on Natural Language Processing, ICNLP 2023, pp. 65 - 72

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85173010483&doi=10.1109%2fICNLP58431.2023.00019&partnerID=40&md5=7ca8c0cc77bb15f7ac4ad95c0fcfe3)

[s2.0-85173010483&doi=10.1109%2fICNLP58431.2023.00019&partnerID=40&md5=7ca8c0cc77bb15f7ac4ad95c0fcfe3](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85173010483&doi=10.1109%2fICNLP58431.2023.00019&partnerID=40&md5=7ca8c0cc77bb15f7ac4ad95c0fcfe3)

“a center-free intuitionistic fuzzy c-means clustering algorithm based on similarity of hybrid spatial membership for image segmentation is proposed”

[3] Accelerated intuitionistic fuzzy clustering for image segmentation

Signal, Image and Video Processing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85106501312&doi=10.1007%2fs11760-021-01934-1&partnerID=40&md5=66d866afed00656a7e3023c21c189d8d)

[s2.0-85106501312&doi=10.1007%2fs11760-021-01934-1&partnerID=40&md5=66d866afed00656a7e3023c21c189d8d](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85106501312&doi=10.1007%2fs11760-021-01934-1&partnerID=40&md5=66d866afed00656a7e3023c21c189d8d)

“an algorithmic acceleration of approximately eleven times can be guaranteed compared to the conventional algorithm”

[4] Spatial Rough Intuitionistic Fuzzy C-Means Clustering for MRI Segmentation

Neural Processing Letters

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101128364&doi=10.1007%2fs11063-021-10441-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101128364&doi=10.1007%2fs11063-021-10441-w&partnerID=40&md5=b7e2433417373bb8630dbba8c939dbe7)

[w&partnerID=40&md5=b7e2433417373bb8630dbba8c939dbe7](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85101128364&doi=10.1007%2fs11063-021-10441-w&partnerID=40&md5=b7e2433417373bb8630dbba8c939dbe7)

“spatial rough intuitionistic fuzzy C-means method has been proposed”

[5] Kernel intuitionistic fuzzy entropy clustering for MRI image segmentation

Soft Computing

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068346990&doi=10.1007%2fs00500-019-04169-y&partnerID=40&md5=6c72eb3df3ebe6fbb21b8b9849ad1829>

“In this work, a variant of the FEC method is proposed which incorporates advantage of intuitionistic fuzzy set and kernel distance measure termed as kernel intuitionistic fuzzy entropy c-means (KIFECM).”

[6] A Modified Intuitionistic Fuzzy Clustering Algorithm for Medical Image Segmentation

Journal of Intelligent Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85051244972&doi=10.1515%2fjisy-2016-0241&partnerID=40&md5=7288dfec900392a54a30c6e39febb5e2>

“This paper presents a modified intuitionistic fuzzy clustering (IFCM) algorithm for medical image segmentation”

[7] Semisupervised Approach to Surrogate-Assisted Multiobjective Kernel Intuitionistic Fuzzy Clustering Algorithm for Color Image Segmentation

IEEE Transactions on Fuzzy Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85086139157&doi=10.1109%2fTFUZZ.2020.2973121&partnerID=40&md5=55f80f21c8a7e1c54413476114081d66>

“a semisupervised surrogate-assisted multiobjective kernel intuitionistic fuzzy clustering (S3MKIFC) algorithm is proposed in this article”

[8] An Enhanced Spatial Intuitionistic Fuzzy C-means Clustering for Image Segmentation

Procedia Computer Science

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85084476037&doi=10.1016%2fj.procs.2020.03.331&partnerID=40&md5=46b7eda425c73a0babba29826dcc5ec>

“an enhanced spatial intuitionistic fuzzy c-means clustering algorithm is proposed”

[9] Alternate PSO-Based Adaptive Interval Type-2 Intuitionistic Fuzzy C-Means Clustering Algorithm for Color Image Segmentation

IEEE Access

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85066432268&doi=10.1109%2fACCESS.2019.2916894&partnerID=40&md5=37c1643e963f6d38e123af809f28e26e>

“this paper proposes an alternate particle swarm optimization-based adaptive interval type-2 intuitionistic fuzzy c-means clustering algorithm (A-PSO-IT2IFCM) and applies this proposed method to color image segmentation”

[10] Intuitionistic Fuzzy Clustering Method with Spatial Information for MRI Image Segmentation

IEEE International Conference on Fuzzy Systems

<https://www.scopus.com/inward/record.uri?eid=2-s2.0-85073806301&doi=10.1109%2fFUZZ-IEEE.2019.8858865&partnerID=40&md5=368709dad83ee4c67f19d3a765efb254>

"Intuitionistic fuzzy set theory based clustering is an extension of fuzzy c-means which is used for medical image segmentation due to its promising nature for handling the vagueness and uncertainty"

[11] A modified intuitionistic fuzzy c-means clustering approach to segment human brain MRI image

Multimedia Tools and Applications

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045146942&doi=10.1007%2fs11042-018-5954-0&partnerID=40&md5=9c7d3ac59817d2b2555fbeat1c5b0f6a)

[s2.0-85045146942&doi=10.1007%2fs11042-018-5954-0&partnerID=40&md5=9c7d3ac59817d2b2555fbeat1c5b0f6a](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85045146942&doi=10.1007%2fs11042-018-5954-0&partnerID=40&md5=9c7d3ac59817d2b2555fbeat1c5b0f6a)

"In this paper, we have proposed a modified intuitionistic fuzzy c-means algorithm (MIFCM) and solved analytically the objective function of the MIFCM method using Lagrange method of undetermined multiplier."

[12] Intuitionistic Fuzzy C-Means Clustering Using Rough set for MRI Segmentation

Proceedings of the 2018 International Conference on Current Trends towards Converging Technologies, ICCTCT 2018

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059933055&doi=10.1109%2fICCTCT.2018.8550853&partnerID=40&md5=29ee7667c804b2c3961138c95f9016fe)

[s2.0-85059933055&doi=10.1109%2fICCTCT.2018.8550853&partnerID=40&md5=29ee7667c804b2c3961138c95f9016fe](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059933055&doi=10.1109%2fICCTCT.2018.8550853&partnerID=40&md5=29ee7667c804b2c3961138c95f9016fe)

"This paper proposes a method to segment the magnetic resonance images with and without noises powerfully. The proposed method uses the intuitionistic fuzzy c-means algorithm for segmenting cerebro spinal fluid (CSF), white matter (WM) and gray matter (GM) tissues in the MRI" Metodi Specific (Ambito Medico) [5]

[13] A kernel-based intuitionistic fuzzy C-Means clustering using a DNA genetic algorithm for magnetic resonance image segmentation

Entropy

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034232679&doi=10.3390%2fe19110578&partnerID=40&md5=f2ece32e560781ad8e1d6fba98a1de57)

[s2.0-85034232679&doi=10.3390%2fe19110578&partnerID=40&md5=f2ece32e560781ad8e1d6fba98a1de57](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85034232679&doi=10.3390%2fe19110578&partnerID=40&md5=f2ece32e560781ad8e1d6fba98a1de57)

"In this paper, we introduce a new formulation of the MRI segmentation problem as a kernel-based intuitionistic fuzzy C-means (KIFCM) clustering problem and propose a new DNA-based genetic algorithm to obtain the optimal KIFCM clustering"

[14] Robust spatial intuitionistic fuzzy C-means with city-block distance clustering for image segmentation

Journal of Intelligent and Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057870574&doi=10.3233%2fJIFS-169809&partnerID=40&md5=1a797a8469e4d0b61be74d5863930789)

[s2.0-85057870574&doi=10.3233%2fJIFS-169809&partnerID=40&md5=1a797a8469e4d0b61be74d5863930789](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85057870574&doi=10.3233%2fJIFS-169809&partnerID=40&md5=1a797a8469e4d0b61be74d5863930789)

"This paper proposes a new Novel Intuitionistic Fuzzy C-means (S-IFCM) incorporated with Spatial information to reduce noise/outliers influence. This new clustering algorithm uses City-block distance to compute the rank between two pixels."

[15] Intuitionistic fuzzy sets based credibilistic fuzzy C-means clustering for medical image segmentation

International Journal of Information Technology (Singapore)

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061934173&doi=10.1007%2fs41870-017-0039-2&partnerID=40&md5=342be23cab28cbdbfb167fb4bc436116)

[s2.0-85061934173&doi=10.1007%2fs41870-017-0039-2&partnerID=40&md5=342be23cab28cbdbfb167fb4bc436116](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061934173&doi=10.1007%2fs41870-017-0039-2&partnerID=40&md5=342be23cab28cbdbfb167fb4bc436116)

"In this paper an intuitionistic fuzzy set based robust credibilistic IFCM is proposed."

[16] Intuitionistic fuzzy entropy clustering algorithm for infrared image segmentation

Journal of Intelligent and Fuzzy Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961219075&doi=10.3233%2fIFS-151894&partnerID=40&md5=87f77bd87ca450dc3b348cce2bc45a14)

[s2.0-84961219075&doi=10.3233%2fIFS-151894&partnerID=40&md5=87f77bd87ca450dc3b348cce2bc45a14](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84961219075&doi=10.3233%2fIFS-151894&partnerID=40&md5=87f77bd87ca450dc3b348cce2bc45a14)

"In order to discover the detailed information contained in the infrared image, this paper proposes an intuitionistic fuzzy entropy clustering algorithm for image segmentation."

[17] Possibilistic Intuitionistic Fuzzy c-Means Clustering Algorithm for MRI Brain Image Segmentation

International Journal on Artificial Intelligence Tools

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84944628789&doi=10.1142%2fS0218213015500165&partnerID=40&md5=e2d6872e68243c7c56c4fc557c24f82f)

[s2.0-84944628789&doi=10.1142%2fS0218213015500165&partnerID=40&md5=e2d6872e68243c7c56c4fc557c24f82f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84944628789&doi=10.1142%2fS0218213015500165&partnerID=40&md5=e2d6872e68243c7c56c4fc557c24f82f)

"Possibilistic fuzzy c-means (PFCM) algorithm is the hybridization of fuzzy c-means (FCM) and possibilistic c-means (PCM) algorithms which overcomes the problem of noise in the FCM algorithm and coincident clusters problem in the PCM algorithm"

[18] Segmentation of nutrient deficiency in incomplete crop images using intuitionistic fuzzy C-means clustering algorithm

Nonlinear Dynamics

[https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942058955&doi=10.1007%2fs11071-015-2372-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942058955&doi=10.1007%2fs11071-015-2372-y&partnerID=40&md5=7d1228399b8d6d26270cbf0dc1aa5bff)

[y&partnerID=40&md5=7d1228399b8d6d26270cbf0dc1aa5bff](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84942058955&doi=10.1007%2fs11071-015-2372-y&partnerID=40&md5=7d1228399b8d6d26270cbf0dc1aa5bff)

"This paper introduces a new segmentation technique to segment incomplete nutrient-deficient crop images by imputing missing pixels."

[19] Image segmentation using spatial intuitionistic fuzzy C means clustering

2014 IEEE International Conference on Computational Intelligence and Computing Research, IEEE ICCIC 2014

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84944381907&doi=10.1109%2fICCIC.2014.7238446&partnerID=40&md5=3ca36f549bf57a72a01b17fb9d847105)

[s2.0-84944381907&doi=10.1109%2fICCIC.2014.7238446&partnerID=40&md5=3ca36f549bf57a72a01b17fb9d847105](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84944381907&doi=10.1109%2fICCIC.2014.7238446&partnerID=40&md5=3ca36f549bf57a72a01b17fb9d847105)

"A fuzzy algorithm is presented for image segmentation of 2D gray scale images whose quality have been degraded by various kinds of noise"

[20] Intuitionistic fuzzy (Formula presented.)-means clustering algorithm with neighborhood attraction in segmenting medical image

Soft Computing

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84921285716&doi=10.1007%2fs00500-014-1264-2&partnerID=40&md5=451a4887fb14cc64b1e5403dc3818c17)

[s2.0-84921285716&doi=10.1007%2fs00500-014-1264-2&partnerID=40&md5=451a4887fb14cc64b1e5403dc3818c17](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84921285716&doi=10.1007%2fs00500-014-1264-2&partnerID=40&md5=451a4887fb14cc64b1e5403dc3818c17)

"This paper proposes a novel neighborhood intuitionistic fuzzy (Formula presented.)-means clustering algorithm with a genetic algorithm (NIFCMGA)"

[21] An Atanassov's intuitionistic Fuzzy Kernel Clustering for Medical Image segmentation

International Journal of Computational Intelligence Systems

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84900015566&doi=10.1080%2f18756891.2013.865830&partnerID=40&md5=cb2ea996c55ee8d193e752562cdc9b0c)

[s2.0-84900015566&doi=10.1080%2f18756891.2013.865830&partnerID=40&md5=cb2ea996c55ee8d193e752562cdc9b0c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84900015566&doi=10.1080%2f18756891.2013.865830&partnerID=40&md5=cb2ea996c55ee8d193e752562cdc9b0c)

"This paper suggests a novel method for medical image segmentation using kernel based Atanassov's intuitionistic fuzzy clustering"

[22] A robust kernelized intuitionistic fuzzy c-means clustering algorithm in segmentation of noisy medical images

Pattern Recognition Letters

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84868227728&doi=10.1016%2fj.patrec.2012.09.015&partnerID=40&md5=c42860c55c89e9ccbe7ed2a24b48a13c)

[s2.0-84868227728&doi=10.1016%2fj.patrec.2012.09.015&partnerID=40&md5=c42860c55c89e9ccbe7ed2a24b48a13c](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84868227728&doi=10.1016%2fj.patrec.2012.09.015&partnerID=40&md5=c42860c55c89e9ccbe7ed2a24b48a13c)

"We present a model called RBF Kernel based intuitionistic fuzzy c-means (KIFCM) where IFCM is extended by adopting a kernel induced metric in the data space to replace the original Euclidean norm metric"

Metodi Specifici (altro/vari) [4]

[1] IF-CLARANS: Intuitionistic fuzzy algorithm for big data clustering

Communications in Computer and Information Science

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85063893252&doi=10.1007%2f978-3-319-91476-3_4&partnerID=40&md5=0ccfdad7bd37cf4bc48e46ead3aeb7f)

[s2.0-85063893252&doi=10.1007%2f978-3-319-91476-3_4&partnerID=40&md5=0ccfdad7bd37cf4bc48e46ead3aeb7f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-85063893252&doi=10.1007%2f978-3-319-91476-3_4&partnerID=40&md5=0ccfdad7bd37cf4bc48e46ead3aeb7f)

"In this paper, we propose a novel clustering algorithm which aims to introduce the concept of intuitionistic fuzzy set theory onto the framework of CLARANS for handling uncertainty in the context of mining Big datasets"

[2] A kernel based Atanassov's intuitionistic fuzzy clustering for network forensics and intrusion detection

2015 IEEE/ACIS 14th International Conference on Computer and Information Science, ICIS 2015 - Proceedings

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945304362&doi=10.1109%2fICIS.2015.7166578&partnerID=40&md5=3d8f7b8b86d2a261502e3438d98dbf51)

[s2.0-84945304362&doi=10.1109%2fICIS.2015.7166578&partnerID=40&md5=3d8f7b8b86d2a261502e3438d98dbf51](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84945304362&doi=10.1109%2fICIS.2015.7166578&partnerID=40&md5=3d8f7b8b86d2a261502e3438d98dbf51)

"Traditional approach has limitations [...] To overcome these difficulties, a system is built based on Atanassov's intuitionistic fuzzy set (AIFS) theory based clustering method that takes care of these problems in a robust way."

[3] A novel intuitionistic fuzzy clustering method for geo-demographic analysis

Expert Systems with Applications

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84859212245&doi=10.1016%2fj.eswa.2012.02.167&partnerID=40&md5=53aa5c255948df3eddf960b0deddb387)

[s2.0-84859212245&doi=10.1016%2fj.eswa.2012.02.167&partnerID=40&md5=53aa5c255948df3eddf960b0deddb387](https://www.scopus.com/inward/record.uri?eid=2-s2.0-84859212245&doi=10.1016%2fj.eswa.2012.02.167&partnerID=40&md5=53aa5c255948df3eddf960b0deddb387)

"in this paper, we propose a novel clustering algorithm for GDA application, based on recent results regarding intuitionistic fuzzy sets and the possibilistic fuzzy C-means, that aims at overcoming some of the limitations of the existing methods."

[4] Intuitionistic fuzzy clustering with applications in computer vision

Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)

[https://www.scopus.com/inward/record.uri?eid=2-](https://www.scopus.com/inward/record.uri?eid=2-s2.0-57049156011&doi=10.1007%2f978-3-540-88458-3_69&partnerID=40&md5=946c270b03ec2761519f366db2bdf20f)

[s2.0-57049156011&doi=10.1007%2f978-3-540-88458-3_69&partnerID=40&md5=946c270b03ec2761519f366db2bdf20f](https://www.scopus.com/inward/record.uri?eid=2-s2.0-57049156011&doi=10.1007%2f978-3-540-88458-3_69&partnerID=40&md5=946c270b03ec2761519f366db2bdf20f)

"The utility of intuitionistic fuzzy sets theory in computer vision is increasingly becoming apparent [...] we propose a clustering approach based on the fuzzy c-means algorithm utilizing a novel similarity metric defined over intuitionistic fuzzy sets"