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Erratum:

Erratum to: Fast global kernel fuzzy c-means clustering algorithm for consonant/vowel segmentation of speech signal

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The original version of this article unfortunately contained mistakes. Algorithm 6 should be as follows:

Algorithm 6 FGKFCM-F clustering

Input:

(1) $X=\{\boldsymbol{x}_1, \boldsymbol{x}_2, \ldots, \boldsymbol{x}_N\}$, $\boldsymbol{x}_i \in \mathbb{R}^d$, i=1, 2, …, N, the dataset;

(2) C, $1<C\leq N$, the number of clusters;

(3) $\varepsilon>0$, the stopping criterion;

(4) $\boldsymbol{\mu}^{(0)}=(\boldsymbol{\mu}_1^{(0)}, \boldsymbol{\mu}_2^{(0)}, \ldots, \boldsymbol{\mu}_C^{(0)})$, the initials of memberships;

(5) $m>1$, the weighting exponent;

(6) σ, the GRBF kernel parameter.

Output:

(1) $\tilde{\boldsymbol{v}}=(\tilde{\boldsymbol{v}}_1, \tilde{\boldsymbol{v}}_2, \ldots, \tilde{\boldsymbol{v}}_C)$, the final cluster prototypes;

(2) $\boldsymbol{\mu}=(\boldsymbol{\mu}_1, \boldsymbol{\mu}_2, \ldots, \boldsymbol{\mu}_C)$, the final memberships.

Compute $\tilde{\boldsymbol{v}}^*(1)$ using Eq. (23) with initial position $\tilde{\boldsymbol{v}}(1)$ placed at the data point that minimizes Eq. (24);
for k=2 to C **do**
  for n=1 to N **do**
    Set the initial state
    $\tilde{\boldsymbol{v}}^{n(0)}(k)=(\tilde{\boldsymbol{v}}_1(k), \tilde{\boldsymbol{v}}_2(k), \ldots, \tilde{\boldsymbol{v}}_{k-1}(k), \tilde{\boldsymbol{v}}_k(k))$
    $=(\tilde{\boldsymbol{v}}_1^*(k-1), \tilde{\boldsymbol{v}}_2^*(k-1), \ldots, \tilde{\boldsymbol{v}}_{k-1}^*(k-1), \boldsymbol{x}_n)$;
    Set initial memberships $\boldsymbol{\mu}^{n(0)}(k)$ with respect to $\tilde{\boldsymbol{v}}^{n(0)}(k)$ using Eq. (25);
  end
  $l=\arg\min_{1\leq n\leq N} J^{\Phi}(\boldsymbol{\mu}^n(k))$ using Eq. (19);
  $\boldsymbol{\mu}^n(k) \leftarrow \text{KFCM-F}\left(X, k, \varepsilon, m, \sigma^2, \boldsymbol{\mu}^{n(0)}(k)\right)$;
  $\tilde{\boldsymbol{v}}^{(0)}(k) \leftarrow \tilde{\boldsymbol{v}}^{l(0)}(k)$;
  s=1;
  Update $\tilde{\boldsymbol{v}}^{(s)}(k)$ with $\tilde{\boldsymbol{v}}^{(s-1)}(k)$ using Eq. (23);
  If $\| \tilde{\boldsymbol{v}}^{(s)}(k)-\tilde{\boldsymbol{v}}^{(s-1)}(k) \|<\varepsilon$
    STOP and $\tilde{\boldsymbol{v}}^*(k) \leftarrow \tilde{\boldsymbol{v}}^{(s)}(k)$;
  Else $s=s+1$ and return to line 11;
end
$\tilde{\boldsymbol{v}} \leftarrow \tilde{\boldsymbol{v}}^*(C)$, $\boldsymbol{\mu} \leftarrow \boldsymbol{\mu}^*(C)$.

The online version of the original article can be found at http://dx.doi.org/10.1631/jzus.C1300320