N. Duchateau - 2014

ERRATA to

Constrained Manifold Learning for the Characterization of Pathological Deviations from Normality
Duchateau N, De Craene M, Piella G, Frangi AF. Medical Image Analysis, 16(8):1532-1549, 2012.

PUBLISHED VERSION:

We created a three dimensional dataset of 1000 points, arranged according to a 2D structure in the 3D space (swiss roll, Fig. 7), defined as:

$$\begin{cases} I_{i,1} = \cos\left(3\pi/2 \cdot (1 + 2x_{i,1})\right), \\ I_{i,2} = \sin\left(3\pi/2 \cdot (1 + 2x_{i,2})\right), \\ I_{i,3} = x_{i,2} \in [0, 20], \end{cases} \quad (1)$$

$(I_{i,1}, I_{i,2}, I_{i,3}) = \mathbf{I}_i$ referring to a point in the 3D space, obtained from the coordinate $(x_{i,1}^{GT}, x_{i,2}^{GT}) = \mathbf{x}_i^{GT}$, randomly generated from a uniform distribution.

SHOULD BE INSTEAD:

We created a three dimensional dataset of 1000 points, arranged according to a 2D structure in the 3D space (swiss roll, Fig. 7), defined as:

$$\begin{cases} I_{i,1} = (1 + 2x_{i,1}) \cdot \cos\left(3\pi/2 \cdot (1 + 2x_{i,1})\right), \\ I_{i,2} = (1 + 2x_{i,1}) \cdot \sin\left(3\pi/2 \cdot (1 + 2x_{i,1})\right), \\ I_{i,3} = x_{i,2}, \end{cases} \quad (2)$$

with $x_{i,1} \in [0, 1]$ and $x_{i,2} \in [0, 20]$,
$(I_{i,1}, I_{i,2}, I_{i,3}) = \mathbf{I}_i$ referring to a point in the 3D space, obtained from the coordinate $(x_{i,1}^{GT}, x_{i,2}^{GT}) = \mathbf{x}_i^{GT}$, randomly generated from a uniform distribution.

```
clc;
clear all;
close all;

Nk = 1000;

X1 = sort(rand(Nk,1));
X2 = 20*rand(Nk,1);

tmp = (1+2*X1);
I1 = tmp.*cos(3*pi/2 * tmp);
I2 = tmp.*sin(3*pi/2 * tmp);
I3 = X2;

A = colormap(jet(Nk));

figure;
for k=1:Nk
    plot3(I1(k),I2(k),I3(k),'.','Color',A(k,:)); hold on;
end
axis square;
grid on;
view(-60,80);
```