**ESCUELA POLITÉCNICA NACIONAL**

**REDES NEURONALES**

**TAREA 9**



David Fabián Cevallos Salas

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**APRENDIZAJE NO SUPERVISADO**

**1. Dataset Path-Based1**

**1.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**1.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**1.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**2. Dataset Aggregation**

**2.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**2.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**2.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**3. Dataset Path-based2**

**3.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**3.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**3.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**4. Dataset S3**

**4.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**4.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**4.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**5. Dataset Zelnik1**

**5.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**5.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**5.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**6. Dataset Ds3c3sc6**

**6.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**6.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**6.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**7. Dataset Complex9**

**7.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**7.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**7.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |

**8. Dataset Rings**

**7.1 Estimación de parámetros**

|  |  |
| --- | --- |
| **Algoritmo** | **Estimación de parámetros** |
| k-means | k = |
|  |
| k-medoids | k = |
|  |
| DBSCAN | Mínimo Nro. de vecinos =  epsilon = |
|  |
| Clustering Jerárquico | Nro. de clusters =  Average linkage |
|  |
| Fuzzy c-means | c **=** |
|  |

**7.2 Visualización de clústeres**

|  |  |
| --- | --- |
| **Algoritmo** | **Visualización de clusters** |
| k-means |  |
| k-medoids |  |
| DBSCAN | (# clústeres en total más un cluster de anomalías)  (# observaciones anómalas) |
| Clustering Jerárquico |  |
| Fuzzy c-means |  |

**7.3 Métricas**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **k-means** | **k-medoids** | **DBSCAN** | **Clustering Jerárquico** | **Fuzzy**  **c-means** |
| **SSW** |  |  |  |  |  |
| **SSB** |  |  |  |  |  |
| **WB-index** |  |  |  |  |  |
| **Silhouette** |  |  |  |  |  |