Brain Drain Analysis and Country Recommendation System

Project Description

This work investigates the migration flows of tertiary-educated individuals, with a particular focus on OECD countries. The analysis integrates statistical data and socio-economic indicators in order to:

- perform data preparation and normalization;
- produce exploratory visualizations of migration flows;
- implement interactive tools for cross-country comparison;
- apply clustering methods and dimensionality reduction (PCA) to identify groups of similar countries;
- develop a recommendation system capable of suggesting suitable destinations based on user-defined preferences.

Folder Structure

- `Brain_drain.ipynb` — the main notebook containing code and analysis.
- `Datasets/` — folder with the CSV files required by the notebook.

For proper execution, the `Datasets` folder must be located in the following Google Drive path:

`MyDrive/Data_Science_Lab/Datasets`

Execution Guidelines

1. Open `Brain_drain.ipynb` in Google Colab.
2. Mount Google Drive when prompted.
3. Ensure that the datasets are stored in the specified directory.
4. Execute the notebook cell by cell (rather than using *Run all*) to guarantee correct behavior of interactive widgets.

Requirements

The notebook is designed for Google Colab, which provides the required libraries by default:
`pandas`, `numpy`, `matplotlib`, `seaborn`, `scikit-learn`, `plotly`, `networkx`, `ipywidgets`.