**Proposed Title: Classifying Socioeconomic Vulnerability Using the OSDG Community Dataset**

**1. Project Idea**  
The aim of this project is to develop a machine learning classifier to assess socioeconomic vulnerability using the OSDG Community Dataset (OSDO-CD). The overall goal of this project is to automate the identification of at-risk populations by analyzing indicators like income, education, and healthcare access, enabling targeted policy interventions.

**2. Relevance to SDGs**  
The project align and directly supports **SDG 1 (No Poverty)** and **SDG 10 (Reduced Inequalities)** by improving vulnerability assessments. Accurate classification helps allocate resources efficiently and effectively, advancing equitable development a core principle of the SDGs (Plataniotis et al., 2023).

**3. Literature Examples**

* A study by Alkire & Santos (2014) used multidimensional poverty indices to classify vulnerability, demonstrating the value of composite indicators.
* Chen et al. (2020) applied XGBoost to socioeconomic data for poverty prediction, achieving high accuracy with interpretable results.

**4. Data Description**  
The **OSDO-CD** (publicly available CSV datasets) includes socioeconomic metrics aligned with SDGs. Preprocessing will involve handling missing values, scaling numerical features, and addressing class imbalance.

**5. Approach**  
A **machine learning** approach like Random Forest will be used due to the structured tabular data and need for interpretability.

**Expected Outcome**: A deployable model with a Streamlet dashboard for policymakers.

# **Reference**

Plataniotis, A., et al. (2023). Integrating the 17 SDGs into the European Green Deal. Research Square.