

✓Full Project Workflow with Automatic Data Download, GAN Selection, Visualizations, and Results

On the **first page** of the website, the user is prompted to upload a dataset using the “**Choose File**” button. This allows the user to select a CSV file from their system. After selecting the file, the user needs to choose the type of GAN they wish to use for synthetic data generation. They can choose between **CTGAN** or **Custom GAN**. Once the GAN type is selected, the user clicks the “**Generate Synthetic Data**” button to start the process.

Upon clicking “**Generate Synthetic Data**”, the website automatically starts generating synthetic data using the chosen GAN model. The synthetic data is created and stored, and **the file is automatically downloaded** to the user's system as a CSV file. This makes it quick and seamless for users to get the generated synthetic data without needing to take any further action.

Once the synthetic data has been generated and downloaded, the website automatically redirects the user to the **second page**, where the following is displayed:

- **The original dataset** that was uploaded.
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- **The synthetic dataset** that was generated using the selected GAN model.
- **EDA (Exploratory Data Analysis) visualizations:**
- **Real Data Visualizations** – graphs and plots summarizing the original data.
- **Synthetic Data Visualizations** – similar plots for the generated synthetic data.
- **Real vs Synthetic Comparison** – visual comparison between real and synthetic data, such as histograms, KDE plots, or scatter plots.

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Since the synthetic data has already been downloaded automatically, there is **no need for a separate download button**.