

Python Data Analysis Workshop

Python & Streamlit

Local Installation Guide

Version 1

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This guide will help you set up Python and run the Streamlit dashboard on your computer.

1 Install Python

1. Go to python.org/downloads
2. Download **Python 3.10 or higher** (3.11 or 3.12 recommended)
3. Run the installer

Important (Windows): Check the box “Add Python to PATH” during installation!

Verify installation: Open Terminal (Mac/Linux) or Command Prompt (Windows):

```
python --version
```

Expected output: Python 3.12.0 (or similar)

2 Create Project Folder

Open Terminal/Command Prompt and run:

```
mkdir lisbon-accidents-dashboard  
cd lisbon-accidents-dashboard  
mkdir data
```

Your folder structure should be:

```
lisbon-accidents-dashboard/  
  app.py  
  requirements.txt  
  data/  
    Road_Accidents_Lisbon.csv
```

3 Create Virtual Environment

A virtual environment keeps your project dependencies isolated.

3.1 Windows

```
python -m venv venv
venv\Scripts\activate
```

3.2 Mac / Linux

```
python3 -m venv venv
source venv/bin/activate
```

Success indicator: When activated, you'll see (venv) at the beginning of your command line.

4 Install Required Libraries

Create a file named `requirements.txt` with:

```
streamlit>=1.28.0
pandas>=2.0.0
numpy>=1.24.0
geopandas>=0.14.0
folium>=0.14.0
streamlit-folium>=0.15.0
plotly>=5.18.0
openpyxl>=3.1.0
shapely>=2.0.0
```

Install all libraries:

```
pip install -r requirements.txt
```

This may take a few minutes.

5 Add Your Files

1. Copy `app.py` to your project folder
2. Copy `RoadAccidentsLisbon.csv` to the `data/` folder

6 Run the Dashboard

```
streamlit run app.py
```

The dashboard opens automatically at: **`http://localhost:8501`**
To stop: Press **Ctrl + C** in the terminal.

7 Quick Command Reference

Task	Command
Activate env (Windows)	<code>venv\Scripts\activate</code>
Activate env (Mac/Linux)	<code>source venv/bin/activate</code>
Deactivate environment	<code>deactivate</code>
Install requirements	<code>pip install -r requirements.txt</code>
Run Streamlit	<code>streamlit run app.py</code>
Stop Streamlit	<code>Ctrl + C</code>

8 Troubleshooting

Problem: geopandas installation fails (Windows)

Solution:

```
pip install wheel pipwin
pipwin install gdal fiona pyproj shapely
pip install geopandas
```

Problem: streamlit command not found

Solution: Ensure virtual environment is activated, or try:

```
python -m streamlit run app.py
```

Problem: “Module not found” error

Solution: Install the missing module:

```
pip install module_name
```

Remember: Always activate your virtual environment before working on the project. If you close the terminal, you need to reactivate it.

Note: The data used in this workshop is for educational purposes only.