# **Essential Skills and Common Python Modules in the Data Science Ecosystem**

## **Coding Environments**

- Jupyter Notebooks
- Spyder
- PyCharm
- VSCode

## Geospatial Analysis

- Geopandas
- Shapely
- Folium
- Rasterio
- Xarray
- PySAL
- Cartopy
- GDAL
- Google Earth Engine

#### **Interactive Plots**

- Bokeh
- Plotly
- Altair
- Ipywidgets

#### Dashboards

- Streamlit
- Dash
- Panel
- Gradio

## Apps

- Tkinter
- PySimpleGUI
- Kivy
- PyQt

## **Essential coding skills**

- Data types
- Data structures
- Understand objects
- Operations with dates
- Control flow
- Functions
- Modules

## **Core libraries**

- Numpy
- Pandas
- Matplotlib
- Seaborn
- SciPy
- SQLite
- JSON

### Stats and Machine Learning

- Statsmodels
- Scikit-learn
- Pytorch
- Keras/Tensorflow

### Image Analysis

- Pillow
- Scikit-image
- OpenCV

#### **Databases**

- TinyDB
- MySQL
- MongoDB
- Cassandra
- Redis
- PostgreSQL

## Web Development

- Bottle
- Flask
- Fast API
- Web2Py
- Django
- PyScript

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