DATA ANALYTICS

INTRODUCTION

prepared by:

Gyro A. Madrona
Electronics Engineer

TOPIC OUTLINE

Data Analysis, Data Analytics, Data Science

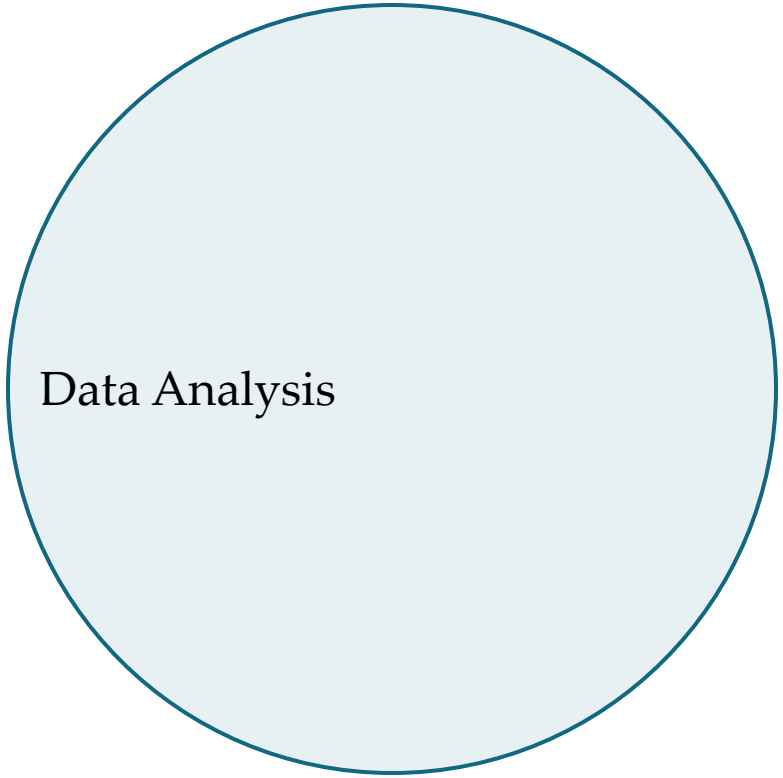
Data Analyst

Software Tools

DATA ANALYSIS, DATA ANALYTICS, DATA SCIENCE

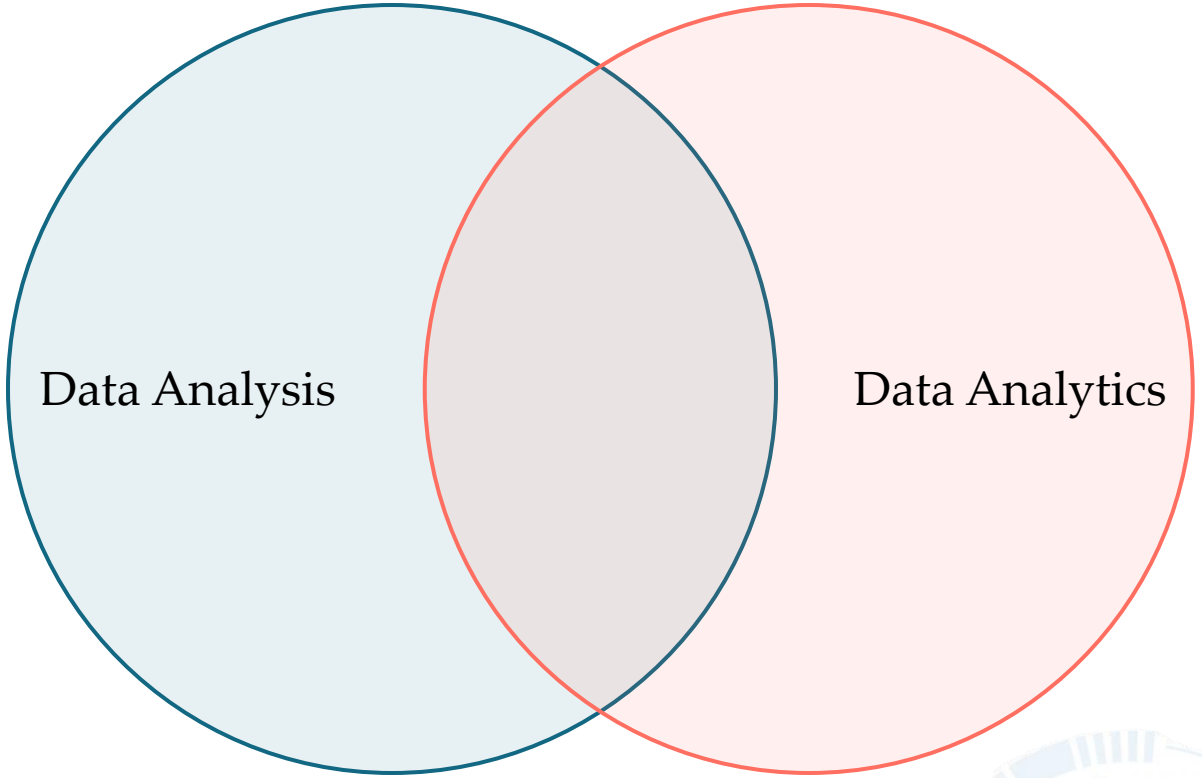
DATA ANALYSIS

Data analysis is the process of inspecting, cleaning, transforming, and modeling **past data** to uncover trends, patterns, and insights that inform decision-making.



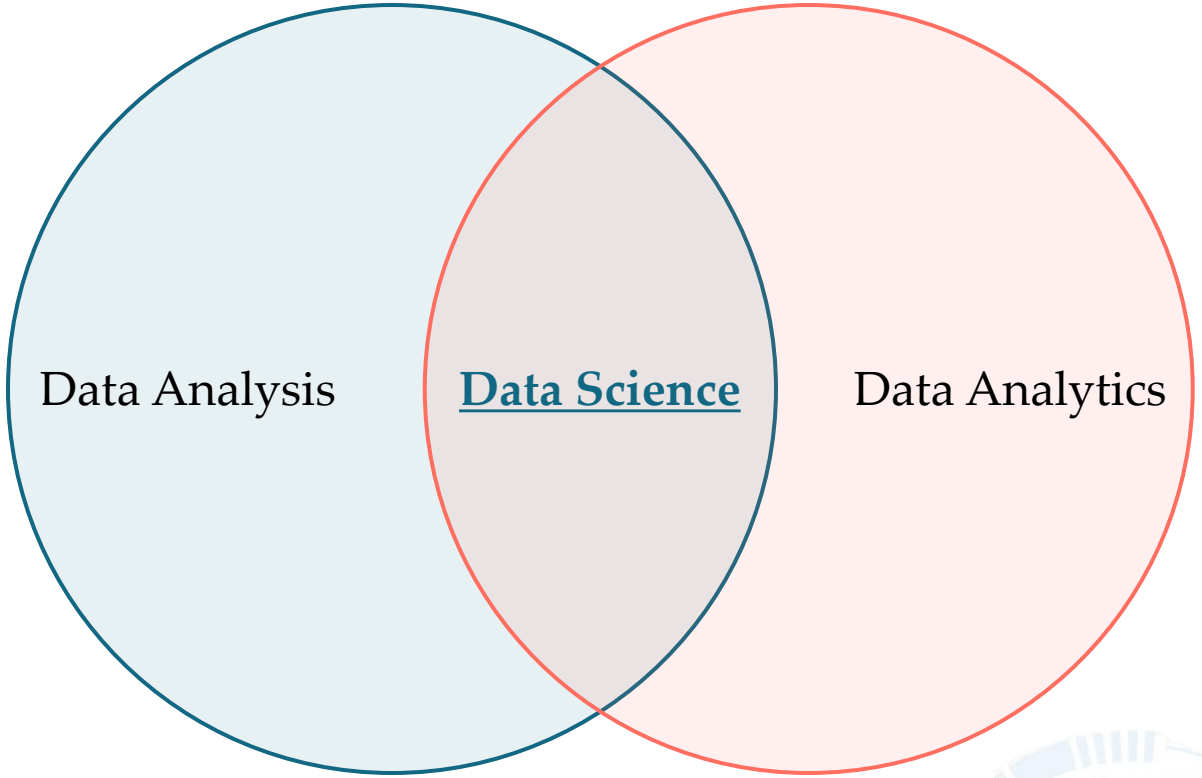
DATA ANALYTICS

Data analytics is the process of examining past and current data to identify trends, patterns, and insights, with a focus on using predictive models and techniques to **forecast future** outcomes and inform strategic decision-making.



DATA SCIENCE

Data science is the combination of **data analysis** and **data analytics**, integrating advanced techniques like machine learning and statistical modeling to extract insights, identify patterns, and predict future outcomes.

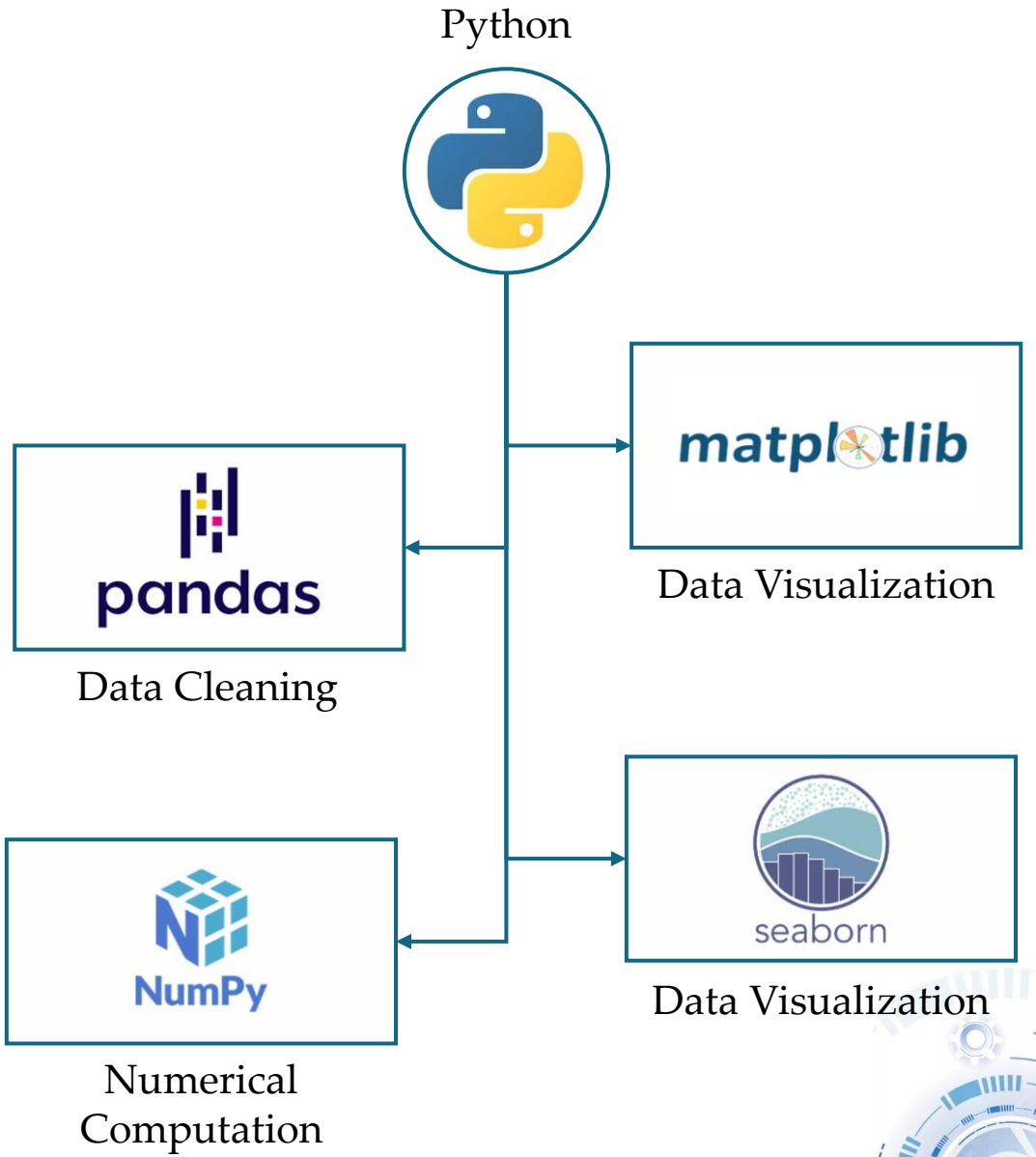


DATA ANALYST

A **data analyst** is a professional who specializes in collecting, processing, and analyzing data to uncover trends, patterns, and insights that inform decision-making.

Key Skills:

- **Quantitative Skills** – Mathematics and Statistics
- **Technical Skills** – Programming Languages

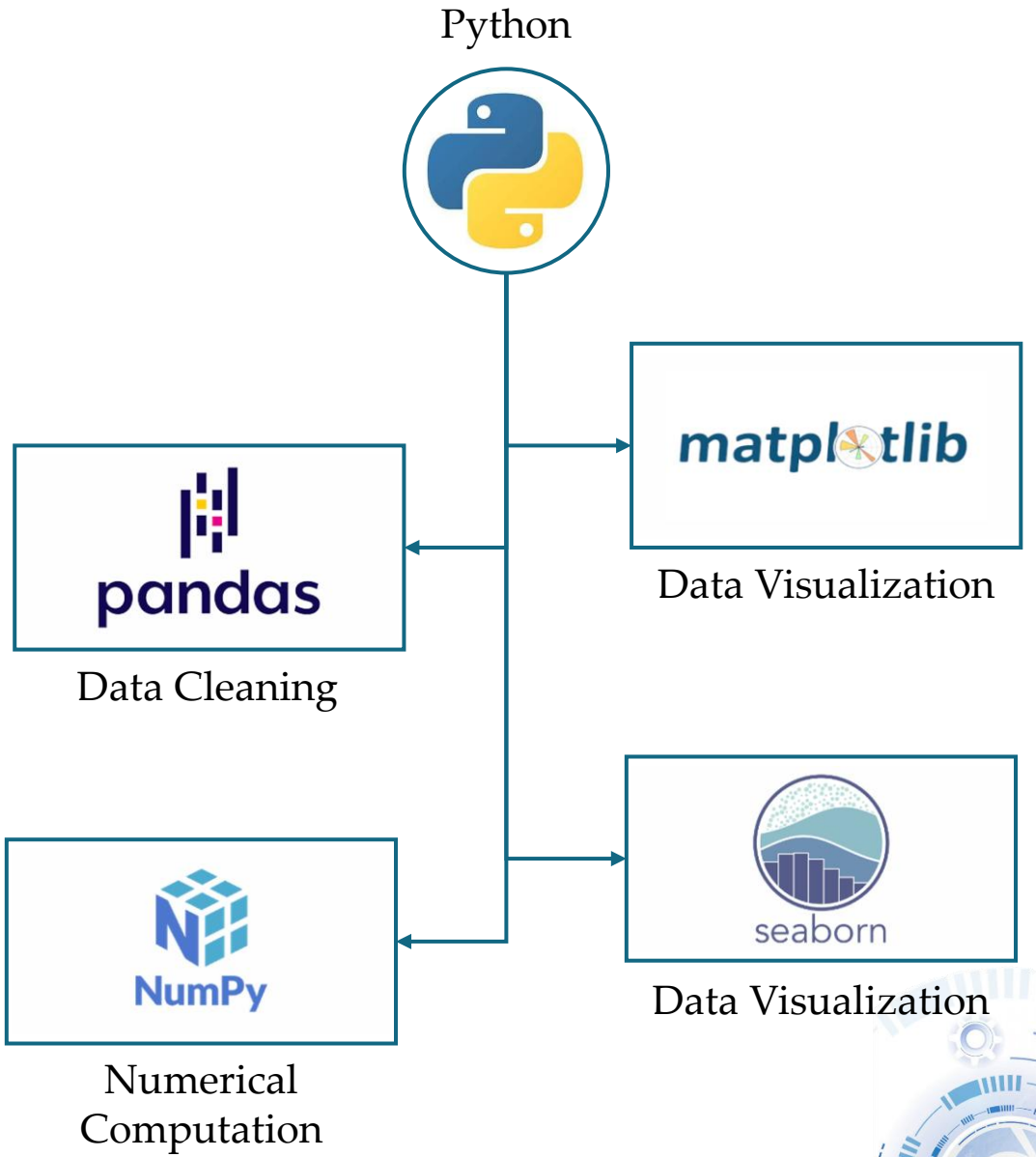


https://www.python.org/

SOFTWARE TOOLS

PYTHON

Python is a powerful and versatile programming language widely used in data analytics due to its simplicity, readability, and **extensive library support**. It enables data analysts to perform various tasks, from data cleaning and manipulation to statistical analysis and visualization.



https://www.python.org/

SOFTWARE TOOLS

1. **Visual Studio Code**

   https://code.visualstudio.com/Download

2. **Python**

   https://www.python.org/downloads/

3. Jupyter Notebook Extension on VS Code

4. numpy, pandas, scipy, matplotlib libraries

5. **Github Account**

   https://github.com/

6. **Git Bash**

   https://git-scm.com/downloads/win

LABORATORY