Introduction to R and Visualization (R programming)

Students will automate their intelligence gathering with R, an easy-to-learn programming language that takes care of tedious data collection and cleanings tasks. This course will give students the foundational tools they need to work with data in R and build insightful visualizations. By the end of this course, students will be able to import and clean data in R, define how data science is used commercially, and quickly build data visualizations.

Objectives

1. Explain use cases and potential of data science
2. Import, export, clean and manipulate data in R
3. Create various static visualizations with R

Prerequisites

While no prerequisites are required, people with some experience working with data are best suited for this program.

Prior to the live sessions, it is recommended that you download and install R studio https://rstudio.com/products/rstudio/download/#download) and R (https://cran.r-project.org/

Syllabus & Topics Covered

1. Introduction to R and data science
    a. Introduction to R and R Studio
    b. An overview of data science
    c. Performing basic calculations in R
    d. Loading data into R

2. Fundamentals of R programming
    a. Understanding data types, how and when to use them
    b. Read / write data in R c. Evaluate and address missing values in data
    d. Manipulate data types and structures using flow control structures

3. Wrangling and cleaning data
    a. Transforming and cleaning data
    b. Selecting and subsetting data
    c. Summarizing and aggregating data

4. Introduction to data visualization
    a. Basic plotting in R
    b. Introduction to the ‘grammar of graphics’ structure