



## Day 1: Introduction to Data Science

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### Objective

Understand what Data Science is, explore its lifecycle, tools, and career roles. Then set up your system for Python, Jupyter Notebook, and Anaconda to begin your hands-on journey.

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### 1. What is Data Science?

#### ➤ Definition:

Data Science is a multidisciplinary field that uses **statistics**, **computer science**, and **domain knowledge** to extract meaningful insights from **data**.

#### ➤ Real-Life Examples:

- Netflix movie recommendations
  - Amazon product suggestions
  - Fraud detection in banks
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### 2. Data Science Lifecycle

1. **Data Collection** – From websites, sensors, databases
2. **Data Cleaning** – Handle missing or incorrect data
3. **Exploratory Data Analysis (EDA)** – Visualize and understand patterns
4. **Model Building** – Use ML algorithms to predict or classify
5. **Evaluation** – Check accuracy or error

6. **Deployment** – Put the model into production (like a web app)
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### 3. Tools Required

Here's what you'll use during the internship:


-  **Python** – Programming language
  -  **Jupyter Notebook** – Code + output in one place
  -  **Anaconda** – Easiest way to manage Python + libraries
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### 4. Environment Setup (Windows/Mac/Linux)

#### Step 1: Download and Install Anaconda

 **Download Link:** <https://www.anaconda.com/products/distribution>

1. Click "Download" and choose:
  - Windows (64-bit Installer)
  - macOS (Intel or M1/M2 chip)
  - Linux (if needed)
2. Open the downloaded file and follow the installer:
  - Click **Next**
  - Choose **Just Me**
  - Leave default install location
  - Add Anaconda to PATH (check the box)
  - Click **Install**

 After installation, restart your system.

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## ✅ Step 2: Launch Jupyter Notebook

### Option 1: Via Anaconda Navigator

1. Search for **Anaconda Navigator** in Start Menu or Spotlight
2. Open it
3. Click on **Launch** under **Jupyter Notebook**

### Option 2: Via Terminal/Command Prompt

1. Open **Anaconda Prompt**

Type:

jupyter notebook

- 2.
3. It will open a browser tab at <http://localhost:8888/tree>

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## ✅ Step 3: Create a New Notebook

1. Click **New > Python 3 Notebook**
2. Rename the notebook:
  - Click "Untitled"
  - Name it: [Day1\\_Hello\\_Data\\_Science](#)

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## 5. Hands-On Task



## Create Your First Notebook: "Hello Data Science"

Copy the below content into your notebook and run each cell (Shift + Enter):

# Cell 1: Title

```
print("Welcome to Day 1 of the Data Science Internship!")
```

# Cell 2: Simple math

```
a = 10
```

```
b = 20
```

```
print("Sum of a and b is:", a + b)
```

# Cell 3: Data types

```
name = "Data Science"
```

```
is_fun = True
```

```
print(f"Learning {name} is fun:", is_fun)
```

# Cell 4: Markdown Cell (click Cell > Cell Type > Markdown)

# Write this in markdown cell:

# ## Hello Data Science 🙌

# This is my first notebook using Python and Jupyter!



## Extra Tip

If you're using Google Chrome, you can also try **Google Colab**

(<https://colab.research.google.com/>) as an alternative to Jupyter Notebook—no installation needed!

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