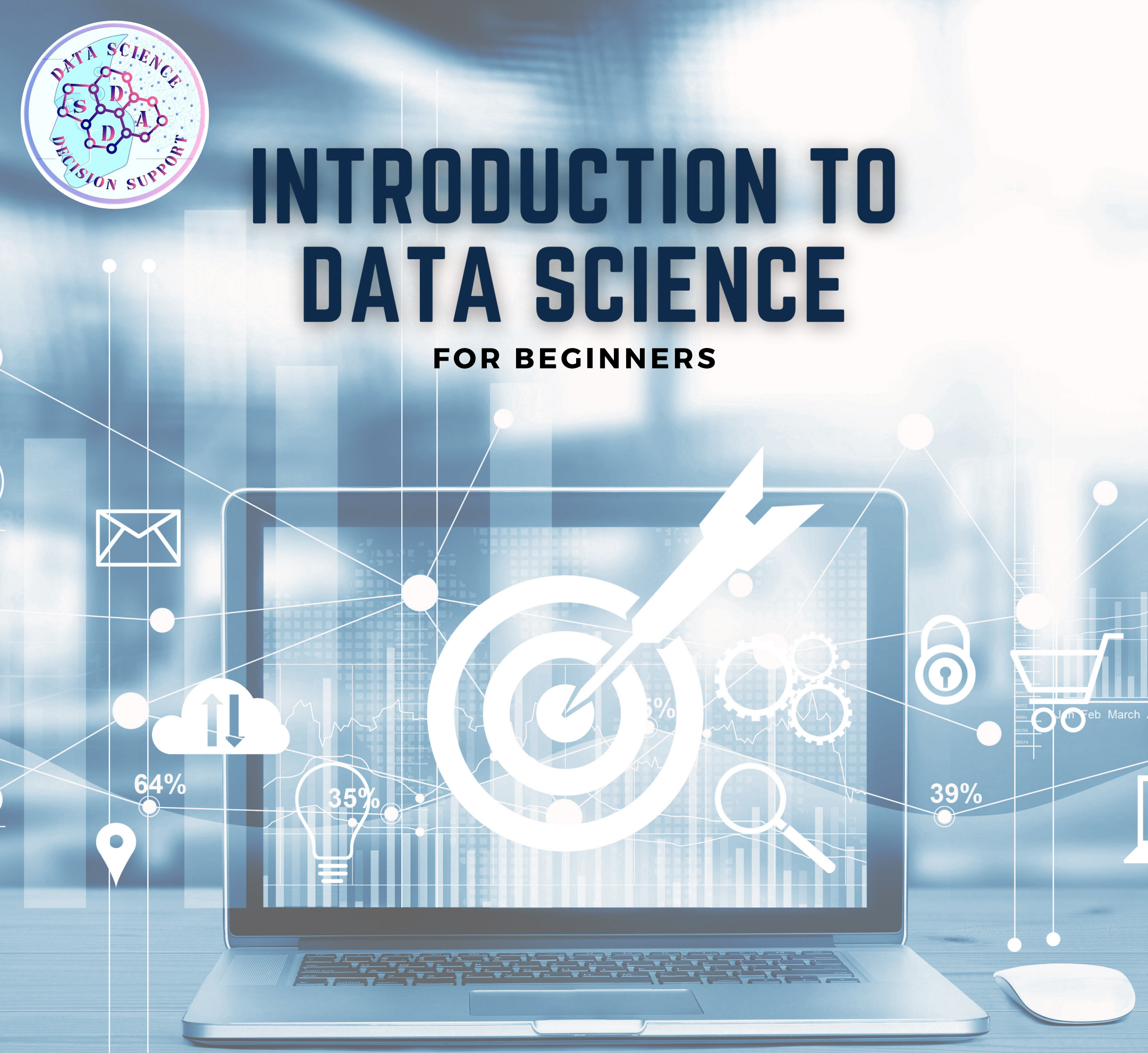
# INTRODUCTION TO DATA SCIENCE

## FOR BEGINNERS




HTTPS://SDADCLUB.TECH/

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WHAT IS

# DATA SCIENCE

**“The ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it—that’s going to be a hugely important skill in the next decades.” - Hal Varian, Google’s Chief Economist**

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Data science in simple words can be defined as an interdisciplinary field of study that uses data for various research and reporting purposes to derive insights and meaning out of that data.
The principal purpose of Data Science is to find patterns within data. It uses various statistical techniques to analyze and draw insights from the data. From data extraction, wrangling and pre-processing
More generally, a data scientist is someone who knows how to extract meaning from and interpret data, which requires both tools and methods from statistics and machine learning, as well as being human. She spends a lot of time in the process of collecting, cleaning, and munging data, because data is never clean. This process requires persistence, statistics, and software engineering skills—skills that are also necessary for understanding biases in the data, and for debugging logging output from code.

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*WHAT IS*

# THE DATA SCIENCE PROCESS

## Step 1: Frame the problem

The first thing you have to do before you solve a problem is to define exactly what it is. You need to be able to translate data questions into something actionable. A great way to do this is to ask the right questions. You need as much context as possible for your numbers to become insights

"Data really powers everything that we do."
**— By Jeff Weiner, CEO of LinkedIn**

## Step 2: Collect the raw data needed for your problem

Once you've defined the problem, you'll need data to give you the insights needed to turn the problem around with a solution. This part of the process involves thinking through what data you'll need and finding ways to get that data, whether it's querying internal databases, or purchasing external datasets.

## Step 3: Process the data for analysis

Now that you have all of the raw data, you'll need to process it before you can do any analysis.It's up to you to go through and check your data to make sure you'll get accurate insights You'll want to check for the following common errors: ( Missing values,. Corrupted values , Timezone differences ...)

## Step 4: Explore the data

When your data is clean, you'll should start playing with it! The difficulty here isn't coming up with ideas to test, it's coming up with ideas that are likely to turn into insights. so you'll have to prioritize your questions.

## Step 5: Perform in-depth analysis

This step of the process is where you're going to have to apply your statistical, mathematical and technological knowledge and leverage all of the data science tools at your disposal to crunch the data and find every insight you can.

**Step 6: Communicate results of the analysis**

You need to craft a compelling story here that ties your data with their knowledge. You start by explaining the reasons behind it

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WHAT ARE

# THE DATA SCIENCE SKILLS

- **An Analytical Mind**

  You'll need an analytical mindset to do well in data science.

- **Mathematics**

  Mathematics is an important part of data science.

- **Statistics**

  You must know statistics to infer insights from smaller data sets into larger populations.

- **Algorithms**

  Understanding how to use machines to do your work is essential to processing and analyzing data sets too large for the human mind to process.

- **Data Visualization**

  To drive impact, you will have to convince others to believe and adopt your insights.

- **Business Knowledge**

  Data means little without its context.

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# THE DATA SCIENCE TOOLS

You'll now need to learn how to use modern data science tools. Each tool has their strengths and weaknesses, and each plays a different role in the data science process.

- **File Formats**

  Data can be stored in different file formats. Here are some of the most common:

**CSV** : Comma separated values.

**SQL:** or structured query language

**JSON:** Javascript Object Notation

- **Excel**
  Excel is often the gateway to data science

- **Python**
Python is a powerful, versatile programming language for data science.

- **R**
R is a staple in the data science community because it is designed explicitly for data science needs.

- **Hadoop**

By using Hadoop, you can store your data in multiple servers while controlling it from one.

- **NoSQL**

NoSQL allows you to manage data without unneeded weight.

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*HOW TO*

# GET A JOB IN DATA SCIENCE?

You need to make a great first impression to break into data science

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- ***Build a Data Science Portfolio and Resume***
- ***Prepare for a data science interview***
- ***Get a data science internship***
- ***Finding a Mentor***
- ***Meetups and Conferences***
- ***Job Boards for Data Science***

***Kaggle*** offers a job board for data scientists. You can find a list of open data scientist jobs at *Indeed*, the search engine for jobs.
**Datajobs** offers a listings site for data science.
**Datasciencejobs** scrapes data science jobs from around the web into one centralized location.

BEST

# RECOMMANDATIONS

*There are best of the websites where you can learn everything about data science*

**https://www.datacamp.com/**

**https://365datascience.com/**

**https://www.kaggle.com/**

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# RESSOURCES

*https://www.springboard.com/*

*https://365datascience.com/*

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