

# Data Science Roadmap

1. Programming language → Python or R Pre-requisite
2. Data Structures & Algorithms → Problem Solving Skills
  - ↳ Early-Moderate (Array or Strings)  
(Leetcode)
3. Mathematics
  - └ Statistics
  - └ Probability & Random variables
  - └ Matrix Theory
  - └ Linear Algebra, calculus
4. SQL → Structured Query Language
  - ↳ Queries

## Data Science Lifecycle

- 1) Data acquisition — SQL
- 2) Data pipeline — Stats
- 3) EDA → Exploratory Data Analysis
  - ↳ NULL values
  - ↳ outliers
  - ↳ Mean, median, Mode Mathematical
  - ↳ Categorical handling ↑ Concepts
- 4) Data Modeling → ML algorithms
  - └ Supervised
  - └ Unsupervised

DL algorithms → Tensorflow,  
Pytorch  
↳ Gradient Descent

5) Model Evaluation

6) Model Deployment