

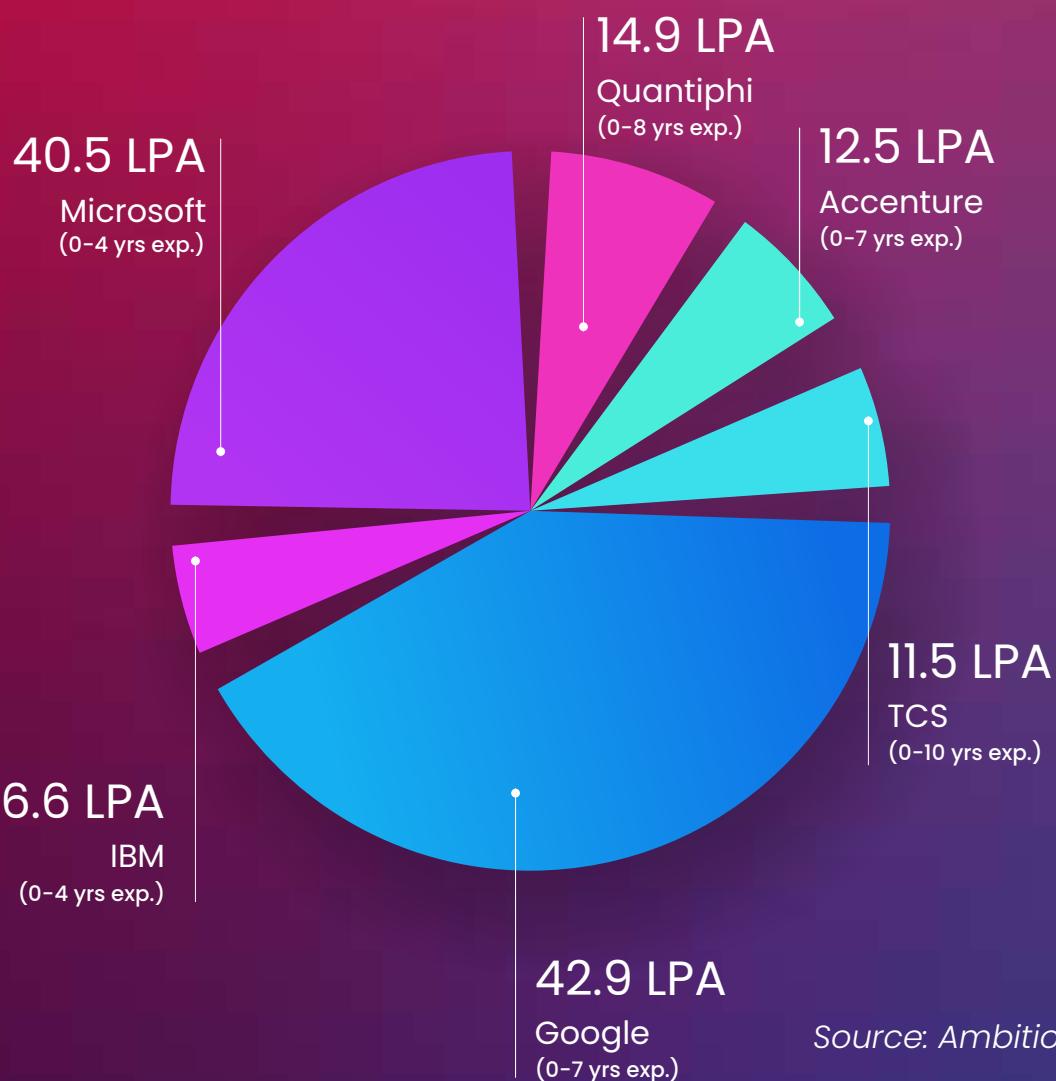
Certification Program in
**Data Science &
Artificial Intelligence**

Course Duration: **6.5 Months**

Why learn Data Science & Artificial Intelligence?

Data and Automation have become the cornerstones of any workplace. Businesses are looking to expand their expertise in these areas, and are eager to hire candidates who know these skills.

Top Companies Hiring Data Scientists & ML Engineers



Source: AmbitionBox, 21 March 2024

Benefits of Learning Data Science & Artificial Intelligence

- ↗ It's a **niche skill** with evolving opportunities.
- ↗ It's a skill that has applications in practically **every industry**.
- ↗ Data Science with AI can lead to a **financially rewarding career**.

Roadmap to Data Science & Artificial Intelligence Career with upGrad Campus



Apply for these roles after completing the course

- ↗ Business Intelligence Developer
- ↗ Data Scientist
- ↗ Data Analyst
- ↗ Associate Analyst Manager
- ↗ Applied Machine Learning Engineer
- ↗ Data Engineer

Data Science & Artificial Intelligence

Course Overview

Eligibility

This program covers core topics to advanced concepts, and is suited to beginners from all backgrounds. While knowing coding is not mandatory, it is an added bonus.

Top Skills You'll Learn

Python and its libraries, Tableau, SQL, Deep Learning, Natural Language Processing, Using Generative AI like ChatGPT in Python & SQL

Practical Learning

8 In-house Projects

15 Tools

25 Case Studies

30 Caselets

Mentor-led Internships

Pick a project to work on, created in collaboration with these companies, and get one-to-one guidance from a mentor.



Why Learn Data Science & AI with upGrad Campus?

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**Guaranteed
Certification
by upGrad Campus**



**Beginner Friendly
Course**
that covers all the
fundamentals of
Data Science & AI



**Distinguished
Faculty**
with years of
industry experience



**Dedicated Student
Support**
from mentors
and peer groups



Live Classes on Weekends
to interact 1:1 with
industry experts and
Teaching Mentors



**Job-ready
Projects**
based on real
world experience



Easy Doubt Resolution
through doubt-clearing
sessions and peer
support groups



Recorded Sessions
that you can access
content for up to
3 years



**Placement Training
Included**
to get you 3 assured
interviews

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Tools & Platforms Covered



Python for Machine Learning

Learn Python from scratch and understand its use in linear regression, logistic regression, decision trees and more.



Data Visualisation with Tableau

Use Tableau Dashboard to make charts, treemaps, histograms and other elements for effective data storytelling.



Understanding Database with MySQL

Explore database design, data modelling, SQL querying, joins and set operations with MySQL.



Data Analysis in Excel

Learn how to use Excel interface to build reports, charts and pivot tables, along with complex functions and formulae.



Data Visualisation using Power BI

Make use of Power BI to prepare data, create reports and build dashboards to derive valuable insights.



Advanced Prompting with ChatGPT

Explore use cases in Python and SQL by using advanced prompting techniques using ChatGPT.

Course Curriculum

(Taught in English)

01 Problem Solving Skills

(Prep Content)

- ↗ Understanding & Framing a Problem
- ↗ Using the SMART framework
- ↗ MECE Approach
- ↗ Root Cause Analysis
- ↗ Analysing the Solutions
- ↗ Proof of Concept Approach

02 Data Toolkit

- ↗ Basics of Python
- ↗ Data Structures
- ↗ Control Structures
- ↗ Functions and OOP
- ↗ Python for Data Analysis – Numpy, Pandas
- ↗ Python for Data Visualisation – Matplotlib, Seaborn
- ↗ Introduction to Kaggle
- ↗ Version Control Using Git & Github

03 Introduction to SQL

- ↗ Database Design & Data Warehouse
- ↗ ERD
- ↗ Schemas and Constraints
- ↗ Data Modelling
- ↗ Basic SQL Querying
- ↗ Regular Expressions
- ↗ Joins and Set Operations
- ↗ Window Functions
- ↗ Case Statements and UDFs
- ↗ Query Optimisation

04 Data Visualisation

(Excel and Tableau)

- ↗ Sort and Filter
- ↗ Report-making: Basic, Conditional & Advanced Formatting
- ↗ Bucketing and Segmenting
- ↗ Formulae and Cell Referencing
- ↗ Creating and Formatting Charts
- ↗ Pivot Tables
- ↗ VLOOKUP
- ↗ Tableau Charts
- ↗ Plots
- ↗ Hierarchies
- ↗ Grouping and Treemaps
- ↗ Functions
- ↗ Dashboards Creation
- ↗ Storytelling

05 Data Visualisation

(Power BI, optional)

- ↗ Power BI Overview
- ↗ Data Preparation
- ↗ Using DAX
- ↗ Data Modelling
- ↗ Building Reports
- ↗ Best Practices
- ↗ Power BI Service
- ↗ Dashboards Creation

Course Curriculum

(Taught in English)

06 Statistics and EDA

- Discrete and Continuous-Probability Distributions
- Central Limit Theorem
- Hypothesis Testing
- Types of Errors
- Data Sourcing
- Web Scraping
- Data Cleaning
- Univariate Analysis
- Bivariate Analysis

09 Advanced AI

- Decision Trees
- Random Forests
- SVM
- Neural Networks
- Introduction to CNN

10 Generative AI

- Leverage ChatGPT for Python & SQL
- Prompt Engineering Basics
- Advanced Prompting Techniques
- ChatGPT APIs in Python

07 Machine Learning

- Math Essentials for ML (optional)
- Linear Regression:
Simple and Multiple
- Logistic Regression
- Implementing Regression-
Models in Python
- K-Means Clustering

08 Introduction to Natural Language Processing

- NLP Application Areas
- Text Analysis
- Regular Expressions
- Basic Lexical Processing

Get hands-on experience with 8 In-house Projects along with a Mentor-Led Internship



IMDb Movies

In this Python project, find insights on specific entities for some movies released between 1916 and 2016 by exploring a dataset.



RSVP Movies (SQL)

Use SQL to analyse the data of movies released from 2017–2019 and give recommendations based on the insights.



Gramener Case Study (EDA)

Use Exploratory Data Analysis to find out factors that decide if a loan applicant will be able to repay it or not.



Geely Auto Assignment

Use linear regression to understand the factors affecting car pricing in the American market.



Gen AI Hands-on Industry Application

Create an end-to-end Personalised AI Tutor and improve its response.



Sun Pharma Case Study

Apply concepts of probability and hypothesis testing to help make decisions at a pharmaceutical company.



IPL Visualisation Project

Build a Tableau dashboard of IPL statistics over the years for an infographic.



HELP NGO Assignment (Clustering)

Use clustering to categorise a list of countries based on socio-economic factors and come up with recommendations.



Mentor-led Internship

Work on a 4-week long project under the guidance of a mentor and solve a problem provided by Uber/Cult.Fit/Snapdeal/Teach For India

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Put your best foot forward this Placement Season!

Learn necessary aptitude and soft skills with our Integrated Placement Training designed to help you get to your dream job.

Free of Cost

Included as part of
the course



3 Assured

Interviews



Access to
300+ Hiring
Partners



81+ Learner

Hours



4+ Mock

Interviews



Live & Recorded Sessions to Help Land Your Dream Job

- Resume Building
- LinkedIn Profile Creation
- Quantitative Training
- Problem Solving & Logical Reasoning
- Public Speaking & Oral Communication
- Non-verbal Communication
- Mock Interviews
- Group Discussions



About Us

upGrad Campus is a
video learning platform
for online education,

with certificate courses specially curated for college students and young adults. As an affiliate of upGrad, India's largest online higher education company, upGrad Campus aims at making every graduate job-ready, with professional skills and practical know-how for the most sought-after fields of work.



Our aim is simple: We strive to create high-impact, hands-on experiences that prepare learners for meaningful and productive careers.



Ronnie Screwvala

Co-founder & Executive
Chairman, upGrad



Program Details

- Duration
6.5 months
- Fee structure
~~₹ 80,000~~
₹ 66,000 (No additional taxes)
- Program hours
390+ Learning Hours
Live Sessions every weekend
Sat & Sun, 7.30 PM – 9.30 PM
- Placement Training
36+ Hours of Live Sessions
Tue & Thur, 7:30 PM – 9:30 PM

upGrad
Campus 

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