



# DATA ENGINEERING BROCHURE

*Train to be a skilled Data Engineer*



# PROGRAM OVERVIEW

→ **Saturday Live Classes**  
for 6 months

→ **Weekly Drop-In**  
Support Sessions

→ **Mentorship**  
Sessions

→ **CV Review**

→ **Upwork**  
Optimization

→ **LinkedIn**  
Optimization

→ **Navigating the Job Mar**  
Session

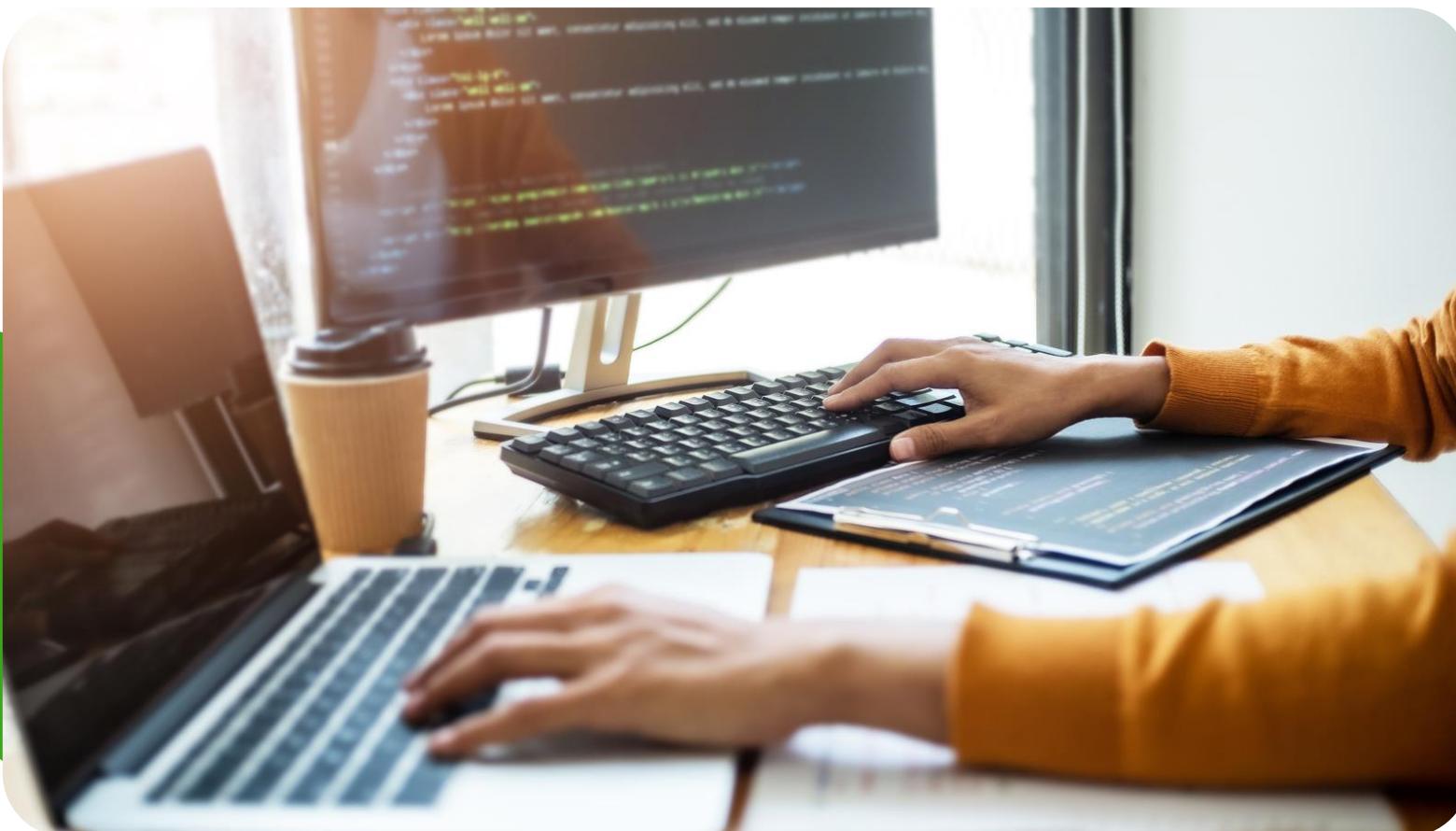
→ **2-Month Internship**

→ **Interview Preparation**

→ **Post-Training**  
Support



# WHY DATA ENGINEERING?

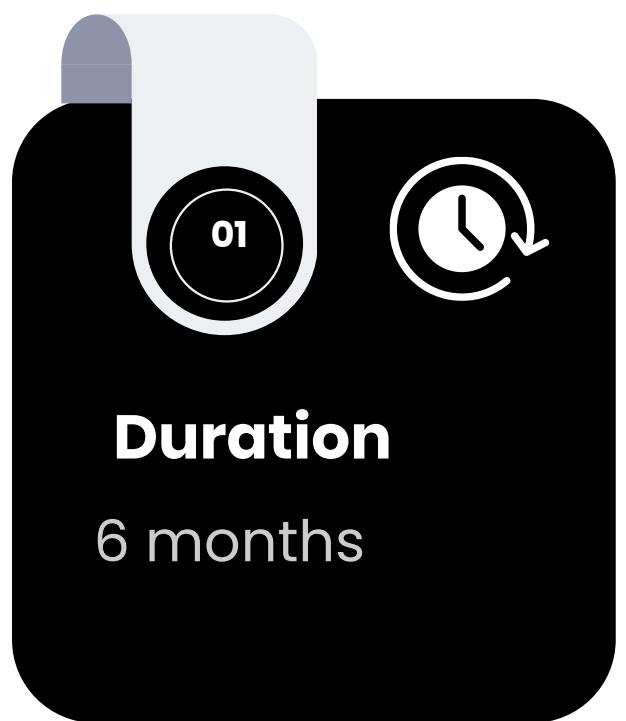


Data Engineering gives you the ability to transform raw, fragmented data into reliable, scalable systems that power analytics, AI, and business decision-making. In today's economy, organizations no longer just collect data; they need robust data infrastructures that can ingest, process, and deliver high-quality data in real time. This shift has made Data Engineering one of the most critical and high-leverage capabilities in modern organizations.

Learning Data Engineering equips you with the technical mastery to design, build, and maintain data pipelines and architectures. You move beyond basic data handling to engineering systems that integrate multiple data sources, ensure data quality, and enable seamless access for analytics and machine learning. By bridging the gap between raw data and usable insights, you turn complex data flows into dependable foundations for innovation.

Beyond strong career opportunities, Data Engineering empowers you to solve data-driven challenges at scale. It is a future-ready discipline that keeps you at the forefront of digital transformation, giving you the power not just to support data initiatives, but to architect the backbone of modern, intelligent organizations.

# REQUIREMENTS

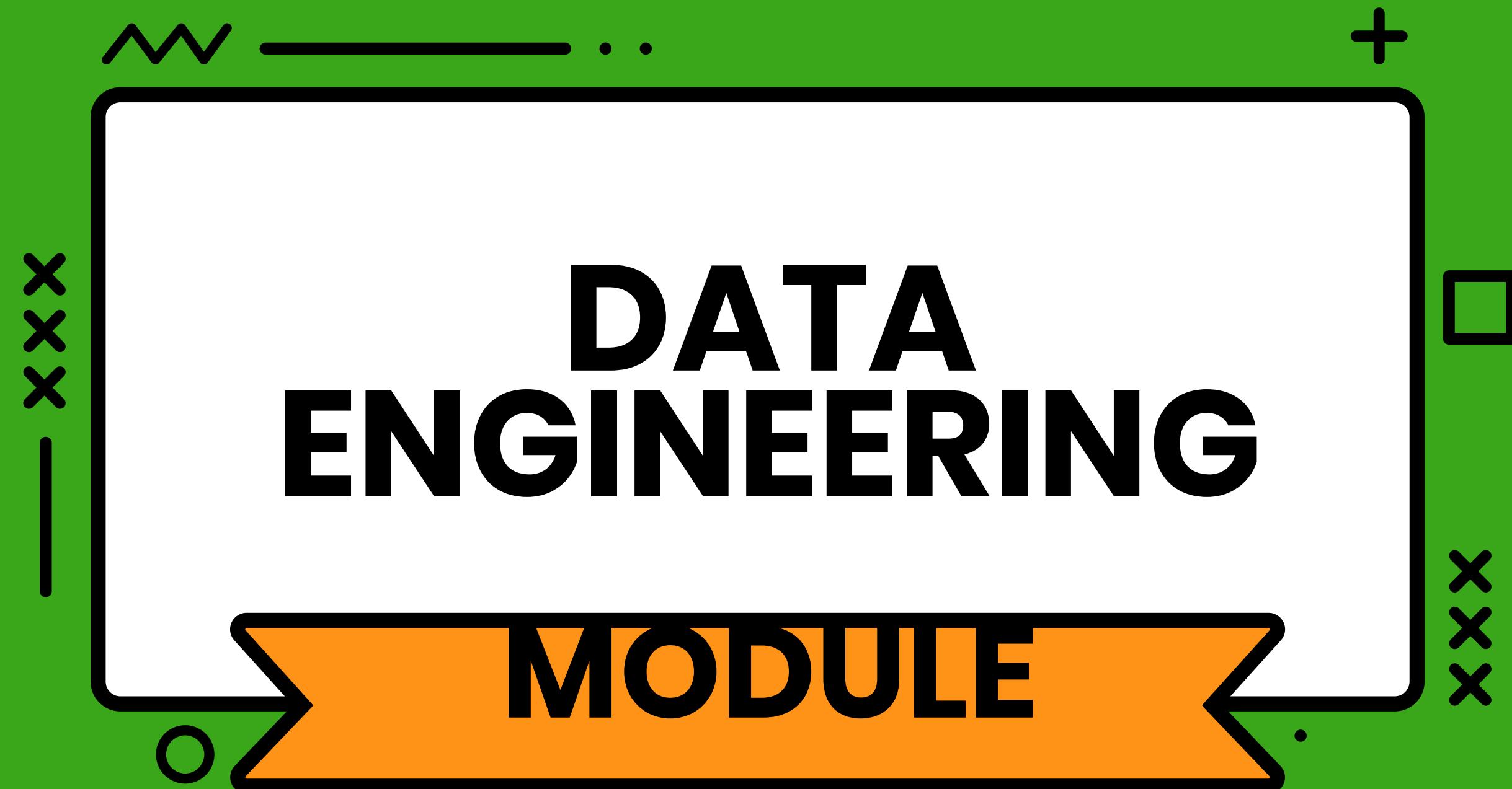
A green ribbon banner with a white border and a white circle containing a green checklist icon (list and pencil).

**Career growth is not about where you start, but how committed you are to learning, improving, and showing up every day.**



## OUR CURRICULUM





# DATA ENGINEERING

## Module 1

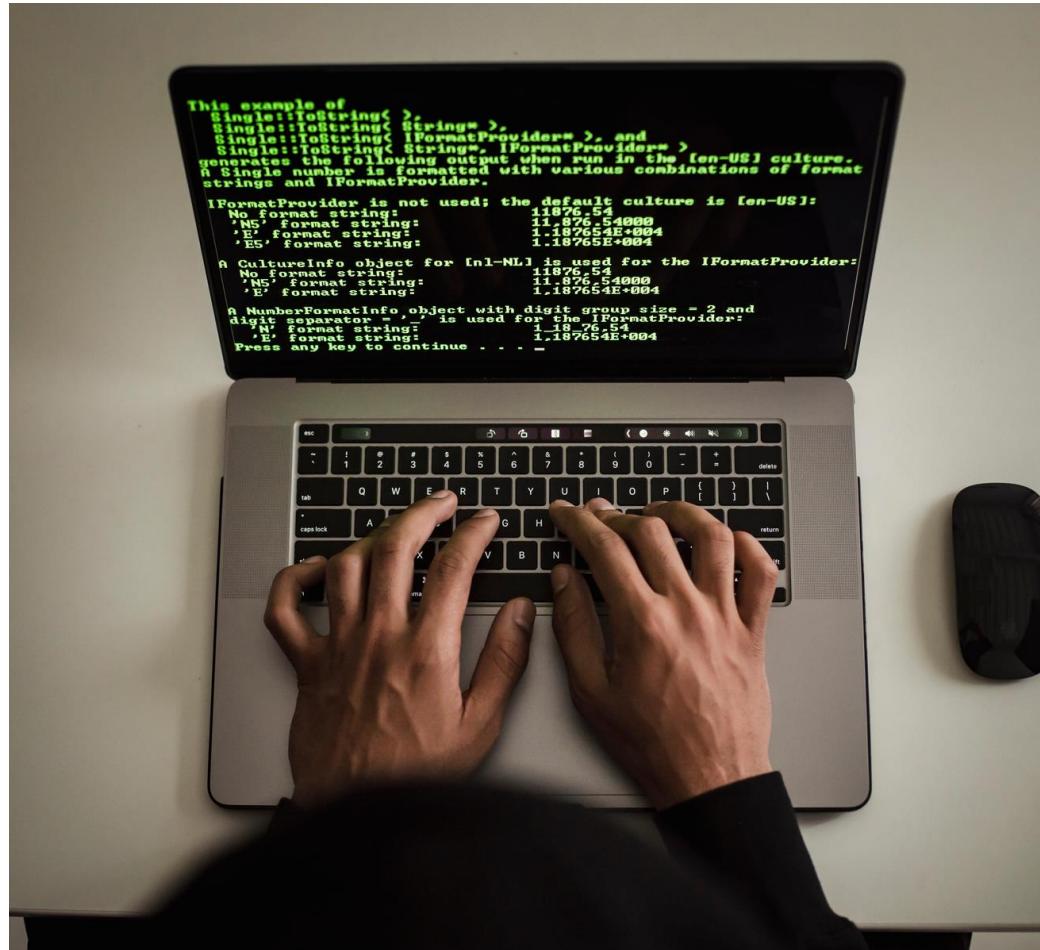
### INTRODUCTION TO DATA ENGINEERING

- Who is a Data Engineer?
- Data Engineering vs Data Science vs Machine Learning
- Modern Data Stack
- Data Engineering Career Paths
- Key Tools & Technologies
- Data Lifecycle & Data Architecture
- Databases vs Data Warehouses vs Data Lakes

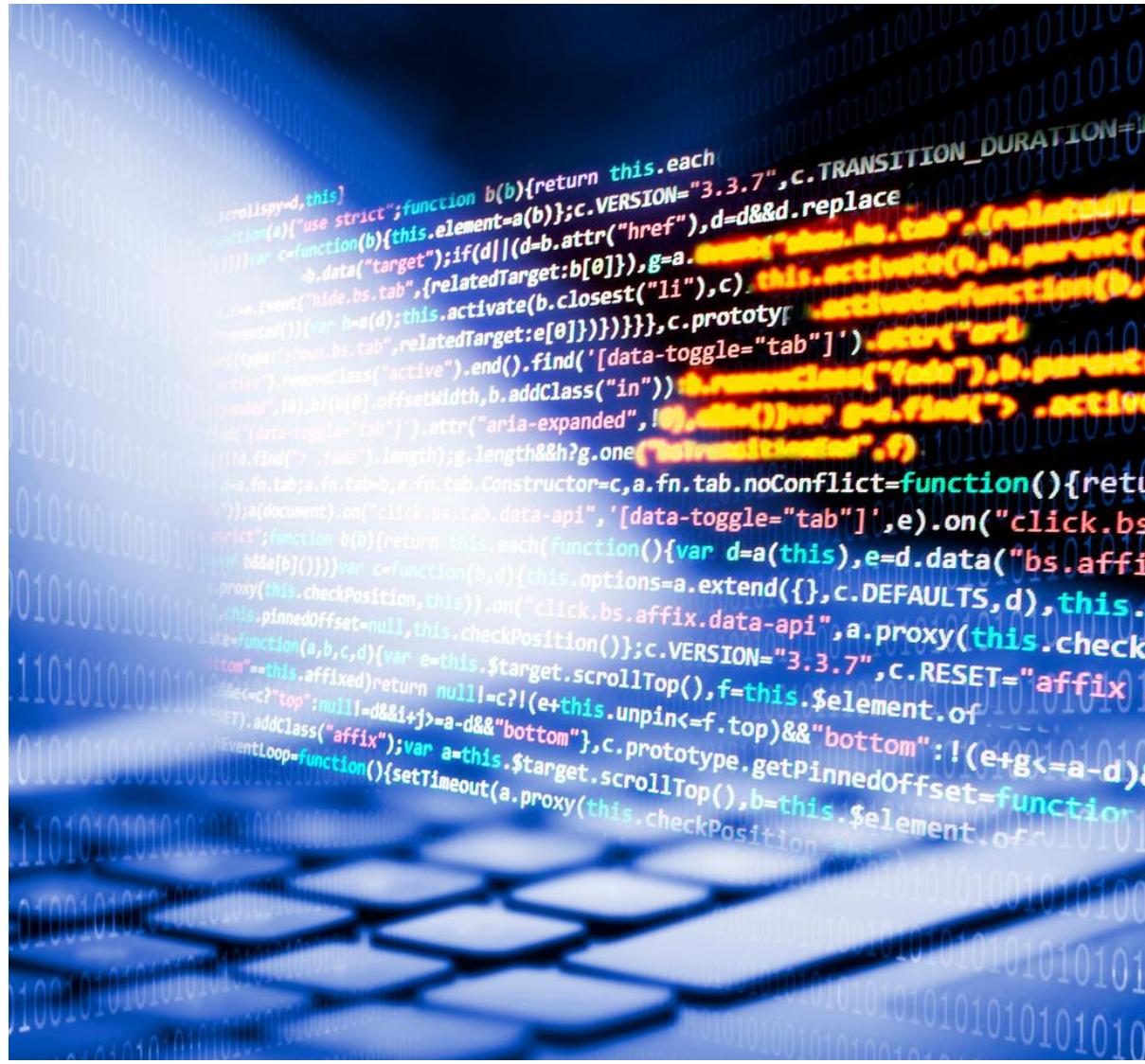
#### Hands-On

- Set up environment: Python, VS Code, Git, GitHub
- Explore sample datasets

Create your first data pipeline workflow  
manually



# DATA ENGINEERING



## Module 2

### PROGRAMMING FOR DATA ENGINEERS — PYTHON

- Python basics for data engineering
- Working with files: CSV, JSON, XML, Parquet
- Error handling, logging, virtual environments
- Data manipulation with Pandas
- Introduction to OOP
- Writing production-level Python scripts
- Understanding APIs (REST, SOAP)

#### Hands-On

- Build ETL scripts using Python
- Consume public APIs and save data
- Clean large datasets with Pandas

#### Create scheduled scripts

# DATA ENGINEERING

## Module 3

### DATA BASES & SQL

- Relational Database Concepts
- SQL (Beginner to Advanced)
- Joins, Window Functions, CTEs, Views
- Indexing & Query Optimization
- PostgreSQL / MySQL
- NoSQL Databases: MongoDB, Cassandra
- Data Modeling for OLTP & OLAP
- Star & Snowflake Schema



#### Hands-On

- Design a data model for an E-commerce system
- Optimize slow SQL queries
- Create OLAP star schema
- Build a mini data warehouse in PostgreSQL

# DATA ENGINEERING

## Module 4



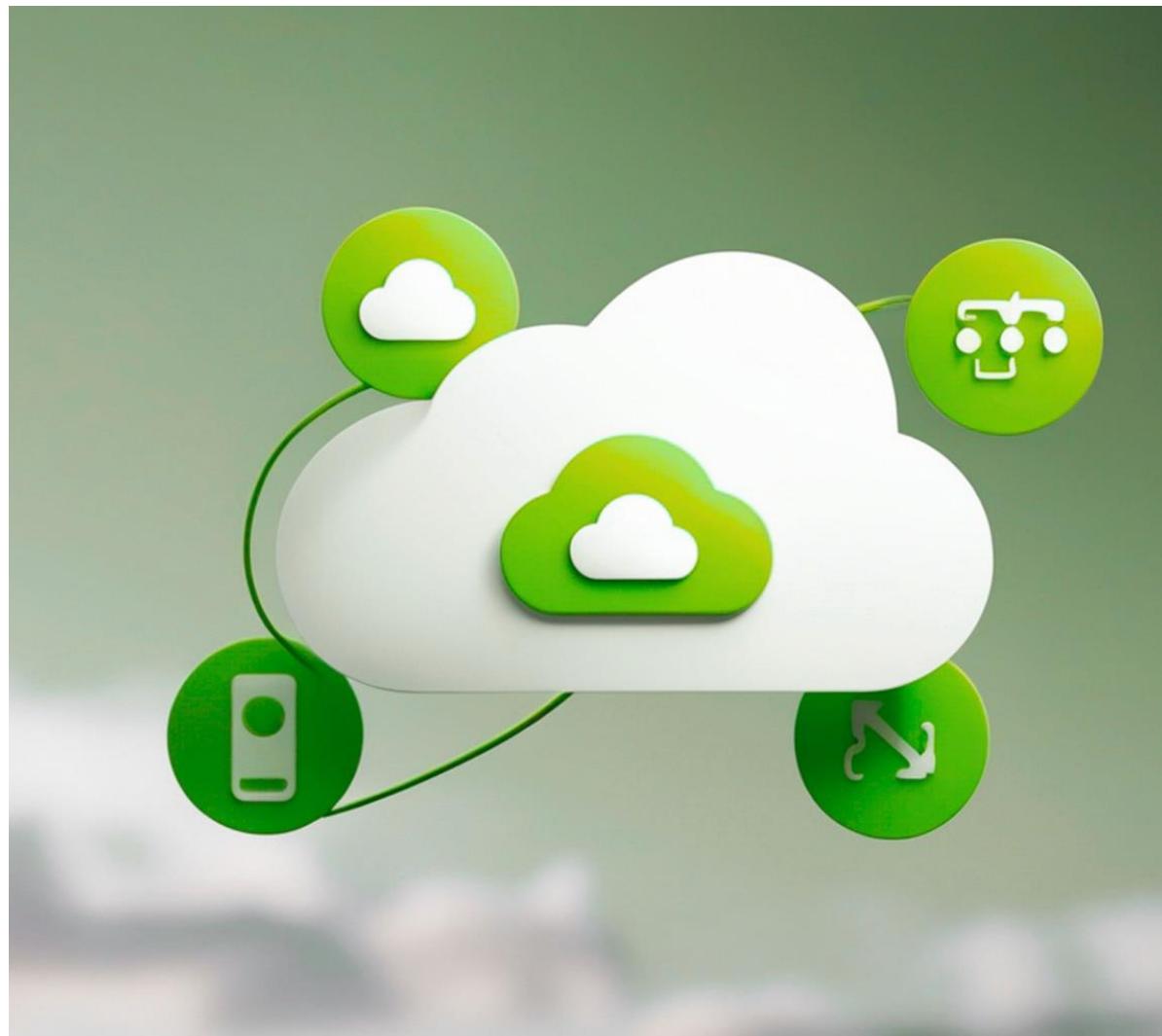
### DATA WAREHOUSING & ETL/ELT

- Data Warehouse Architecture
- ETL vs ELT frameworks
- Dimensional Modeling
- Slowly Changing Dimensions
- Fact & Dimension Tables
- Partitioning & Clustering
- Cloud Data Warehouse: Snowflake / BigQuery / Redshift

#### Hands-On

- Build a full ETL pipeline using Python
- Load data into a cloud data warehouse
- Build SCD Type 1 & 2 transformations

# DATA ENGINEERING



## Module 5

### CLOUD COMPUTING FOR DATA ENGINEERING

- AWS IAM
- S3 (object storage)
- EC2
- RDS
- Lambda Functions
- Glue
- Athena
- Cloud security basics

#### Hands-On

- Build a pipeline that extracts data → stores on S3 → loads to Redshift
- Trigger ETL with AWS Lambda
- Create automated Glue jobs

# DATA ENGINEERING



## Module 6 BIG DATA ENGINEERING

- Introduction to Big Data
- Hadoop Ecosystem
- HDFS
- MapReduce
- Spark Architecture
- PySpark
- Spark SQL
- Spark Optimization

Hands-On

- Process 5–10GB datasets with Spark
- Build and optimize Spark ETL pipelines

Run Spark jobs on AWS EMR

# DATA ENGINEERING

## Module 7

### REAL-TIME DATA PIPELINES

- Kafka fundamentals
- Producers & Consumers
- Kafka Streams
- Real-time data processing concepts
- Streaming vs Batch
- Spark Streaming

#### Hands-On

- Build a real-time pipeline using Kafka
- Deploy streaming analytics with Spark Streaming

## Module 8

### DATA PIPELINE ORCHESTRATION

- Workflow Orchestration
- Apache Airflow
- DAGs
- Scheduling & monitoring pipelines
- Error handling & retries

#### Hands-On

- Build production-level Airflow DAG
- Schedule a pipeline to run daily
- Monitor DAG performance

# DATA ENGINEERING



## Module 9

### DATA ENGINEERING WITH DOCKER & DEVOPS

- Introduction to Docker
- Containers vs VMs
- Creating Docker images
- Docker Compose
- CI/CD basics (GitHub Actions)

#### Hands-On

- Containerize a Python ETL pipeline
- Deploy Airflow with Docker
- Build a CI/CD pipeline

# DATA ENGINEERING



## Module 10

### ADVANCED DATA ENGINEERING SYSTEM DESIGN

- Distributed Systems Fundamentals
- Data Partitioning & Replication
- Event-Driven Architecture
- Data Governance & Security
- Metadata management (Data Catalogs)
- Data Quality frameworks (Great Expectations)

#### Hands-On

- Design a full data architecture for a Fintech company
- Implement data quality checks
- Build a metadata store

# FINAL PROJECT



- Data ingestion (API, Files, or Streaming)
- Data lake storage (S3 or GCS)
- ETL/ELT pipeline with Python + Spark
- Airflow orchestration
- Data warehouse (Redshift/Snowflake/BigQuery)
- BI dashboard (Power BI or Looker)

# Industries That Employ Data Engineering

Technology and Software Companies

Finance and Banking

Healthcare and Pharmaceuticals

E-commerce and Retail

Telecommunications

Manufacturing and Production

Energy and Utilities

Government and Public Sector

Education and EdTech

Media & Entertainment



# WHY TRAIN WITH US?



**Practical, Job  
Ready Training**



**Industry-  
Standard Tools  
& Technologies**



**Expert  
Instructors With  
Real Experience**



**Personalized  
Mentorship &  
Support**



**Flexible and  
Beginner-Friendly**



**Certification  
That Boosts  
Your CV**



**Career  
Guidance &  
Portfolio  
Development**



**Supportive  
Community**



**Proven Success  
Stories**



**Affordable  
Quality Training**

# Real world case studies



# INTERNSHIP PROGRAM





# JOIN OUR NEXT COHORT



# 2026 TRAINING CALENDAR



**January**

**10**  
Saturday

**February**

**14**  
Saturday

**March**

**14**  
Saturday

**April**

**11**  
Saturday

**May**

**09**  
Saturday

**June**

**13**  
Saturday

**July**

**11**  
Saturday

**August**

**08**  
Saturday

**September**

**12**  
Saturday

**October**

**10**  
Saturday

**November**

**14**  
Saturday

**December**

**12**  
Saturday

# **PROGRAM FEES**

# Testimonial

The following are genuine testimonials that we have received from our past students who have proven the benefits of the services we have provided to them.



**Sodiq**



I've attended other online classes before, but Amdor Analytics stands out for me. The facilitator is engaging, the sessions are practical, and the support team is responsive. I feel like I'm part of a real community that wants me to succeed. I'm happy I made this choice



**Chinasa Fabian-Ijeruh**



Before joining Amdor Analytics, I had no prior tech background. Now, I can confidently analyze data and build reports. The facilitator is very supportive and always encourages us to practice. The training has made me believe that anyone can learn tech if they're in the right environment.



**Chidimma Uzochukwu**



It's been an eye-opening experience learning at Amdor Analytics. The way the facilitator breaks down each lesson into relatable examples makes learning easy. Even though the pace is fast sometimes, the explanations are clear, and the resources provided are excellent. I'm really grateful for this opportunity.

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# CONTACT US



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