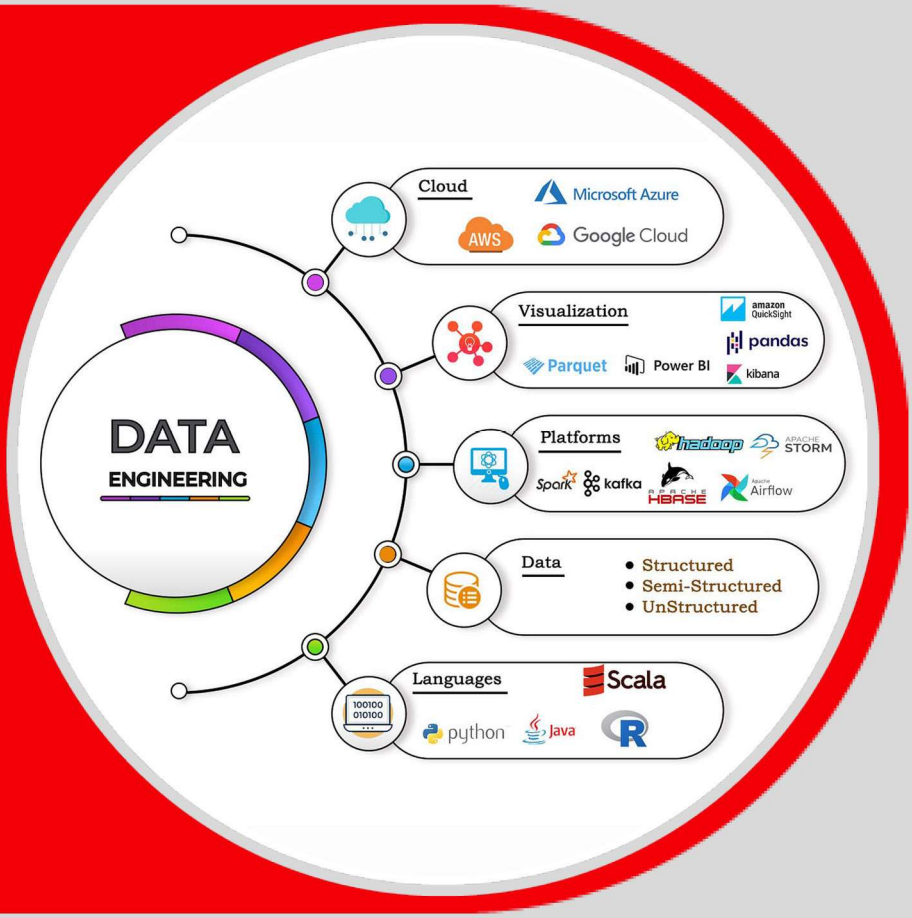
FERILION LABS



DATA ENGINEERING

HAND BOOK

FERILION LABS PVT. LTD.

Dream - Create - Achieve

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FERILION LABS

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Our Mission & Vision

At Ferilion Labs, our mission is to empower individuals to unlock their full potential and achieve career excellence through innovative educational technology. We are dedicated to revolutionizing the way people learn and upskill, ensuring that everyone has the opportunity to thrive in today's dynamic professional landscape.

Empowering Growth Through Education

At the core of our mission is the belief that education is the catalyst for personal and professional growth. We are committed to creating a transformative learning experience that equips individuals with the skills, knowledge, and confidence needed to excel in their careers.

Innovative Edutech Solutions

Ferilion Labs is driven by innovation. We leverage cutting-edge educational technologies to provide engaging, interactive, and personalized learning journeys. By combining expert content with immersive learning methods, we make upskilling an exciting and effective endeavor.

Tailored Learning for Real-world Success

Understanding that each individual's journey is unique, we offer tailored learning paths that cater to diverse learning styles, preferences, and career goals. Our curated courses are designed by industry experts, ensuring that the skills acquired are not only relevant but also immediately applicable in the workplace.

Building Confidence and Success

We are committed to building not only technical skills but also the confidence needed to navigate and thrive in the professional world. Our mission is to empower individuals to take charge of their careers, seize opportunities, and achieve the success they deserve.

Opportunities with us

Ferilion Labs offers a spectrum of exciting opportunities across various job roles, each contributing uniquely to our mission of reshaping education and empowering individuals. You'll be at the forefront of creating engaging and impactful professional experiences, collaborating with experts to craft the course of your career.

- **Data Engineering**
- **Java, J2EE**
- **Python**
- **Buniness Analyst**
- **Data Science**
- **Cloud: AWS/Azure/GCP**
- **VMware**
- **Automation Testing**
  (Selenium with Java/Python)
- **Oracle(SQL, PLSQL)**

What industry expects from You

Tech Stack		Expertise
SQL, ETL Tools, Py Spark	-	Robust
Python, NumPy, Pandas	-	Familiar
Cloud (AWS, Azure)	-	Adequate
Docker, Kubernetes, Kafka	-	Basic

Know Your Role

Why Data engineering

Data engineering is essential because it forms the foundation for all data-related activities within an organization.

Here's why it's crucial:

Data Collection : Data engineers are responsible for gathering data from various sources, including databases, applications, sensors, and external APIs. They ensure that data is collected efficiently and accurately to support business needs.

Data Quality : Data engineers clean, transform, and validate data to ensure its quality and reliability. By removing duplicates, errors, and inconsistencies, they ensure that the data is accurate and suitable for analysis.

Data Processing : Data engineers design and implement data pipelines to process large volumes of data efficiently. They use technologies like distributed computing frame works (e.g., Apache Spark) to handle complex processing tasks and ensure scalability.

Data Storage : Data engineers design and maintain data storage systems such as data warehouses, data lakes, and databases. They ensure that data is stored securely and is easily accessible for analysis and reporting purposes.

Data Security : Data engineers implement security measures to protect sensitive data from unauthorized access, ensuring compliance with regulations such as GDPR and HIPAA. They employ encryption, access controls, and auditing mechanisms to safeguard data privacy and integrity.

Support for Analytics and Decision-Making : By providing clean, reliable data and efficient processing pipelines, data engineers enable data analysts, scientists, and decision-makers to derive insights and make informed decisions based on data-driven evidence.

Scalability and Performance : Data engineers design systems that can handle large volumes of data and scale seamlessly as the organization grows. They optimize data pipelines and storage solutions to ensure high performance and efficiency.

Benefits of Data Engineering

In-Demand Skills : Data engineering skills are highly sought after in today's job market. By learning data engineering, you increase your employability and open up opportunities in various industries.

Lucrative Career : Data engineers typically command competitive salaries due to the high demand for their skills. As organizations continue to invest in data-driven decision-making, the demand for data engineers is expected to grow.

Versatility : Data engineering skills are applicable across industries and sectors. Whether you're interested in finance, healthcare, e-commerce, or any other field, data engineering skills can be leveraged to solve a wide range of problems.

Collaboration with Data Scientists : Data engineers often work closely with data scientists and analysts to develop and deploy data pipelines. Learning data engineering allows you to collaborate effectively with other data professionals, enhancing your teamwork and communication skills.

Problem-Solving Abilities : Data engineering involves designing and optimizing data pipelines to handle large volumes of data efficiently. By mastering data engineering concepts, you develop strong problem-solving abilities that can be applied to various real-world challenges.

Continuous Learning : Learning data engineering allows you to stay updated with the latest trends and advancements in data management and processing.

Course Structure

Database

1. Core Basics
2. SQL-CRUD Operation
3. Joins
4. Views
5. Stored Procedures
6. Functions
7. Triggers

Pyspark

1. Data frame vs RDD
2. Data read and write for handling different file formats
3. Dynamic Frame
4. Transformations and Actions
5. Filters
6. Joins and Group by
7. Spark SQL
8. Partition
9. Reading and writing data from Database
10. Optimization
11. Time Complexity
12. Spark Submit
13. Cloud Interface

Advance Database

1. Performance Tuning
2. Optimization
3. Indexes and Partioning

Data Warehouse

1. OLAP and OLTP
2. Data Mart
3. Fact and Dimension
4. Data Modelling
5. SCD Types
6. History Load Architecture
7. Incrementol Load

Cloud AWS

1. Basic Concepts
2. Glue (Data integration Service/ETL) - (crawler/Job Classifier in Glue)
3. S3 (Simple Storage Service)
4. Redshift (Data Warehouse)
5. CloudWatch - Monitoring
6. Lamda
7. AWS Athena
8. SNS
9. RDS

Python

1. Variables
2. Operators
3. Data Types
4. Keywords
5. Decision Making
6. Loops, Control Statements
7. Data Structures
8. Functions
9. Modules & Packages
10. OOp's
11. File & Exception Handling
12. Multiprocessing, Threading &
13. Regular Expression

Miscellaneous

1. Cassendra / DynamoDB Basics
2. AWS Presto
3. AWS Kinnesis
4. AWS IAM
5. Snowflake Datawarehousing tool
6. EMR
7. Virtual Machine
8. HIVE

Azure (End-to-End)

1. Basic Concepts
2. Azure Data Factory (ETL) - (Pipeline, Triggers, Integration)
3. Azure Data Lake
4. Azure Synapse Analytics
5. Azure database Analytics
6. Azure Monitoring
7. Azure Function
8. Azure Data Bricks
9. Azure Fabric

Hadoop

Kafka

Docker

Kubernetes

Numpy

Pandas

Career Prospects

As a Data Engineer, your career path offers a variety of exciting opportunities for growth and specialization within the data ecosystem. Here are some potential career paths you may consider:

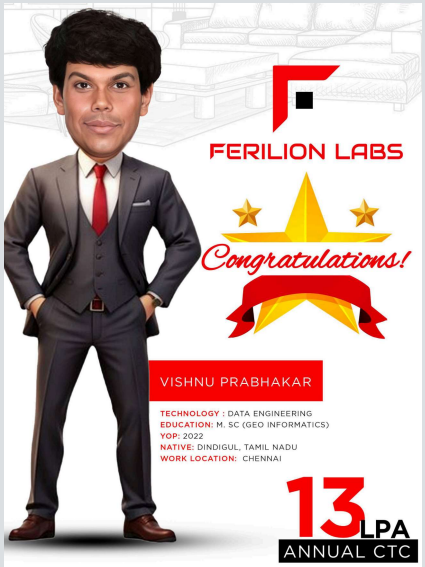
- **Data Engineer :** A data engineer develops and maintains data pipelines, ensuring efficient processing and analysis of large datasets for informed decision-making within an organization.
- **Big Data Engineer :** A Big Data Engineer designs, implements, and maintains large-scale data processing systems, utilizing technologies like Hadoop, Spark, and NoSQL databases to manage and analyze massive volumes of structured and unstructured data.
- **ETL Developer :** An ETL Developer designs, develops, and maintains Extract, Transform, Load (ETL) processes to efficiently extract data from various sources, transform it to meet business requirements, and load it into target databases or data warehouses
- **Data Warehouse Engineer :** A Data Warehouse Engineer designs, builds, and maintains data warehouse infrastructure to facilitate efficient storage, retrieval, and analysis of structured and unstructured data
- **Streaming Data Engineer :** A Streaming Data Engineer develops and maintains real-time data processing systems, utilizing technologies like Apache Kafka, Apache Flink, or Apache Spark Streaming to ingest, process, and analyze continuous streams of data.
- **Cloud Data Engineer :** A Cloud Data Engineer designs, implements, and maintains data pipelines and infrastructure on cloud platforms such as AWS, Azure, or Google Cloud Platform.
- **Data Infrastructure Engineer :** A Data Infrastructure Engineer designs, builds, and maintains the foundational systems and infrastructure required to support data storage, processing, and analysis within an organization.
- **Database Engineer :** A Database Engineer designs, implements, and maintains database systems to efficiently store, manage, and retrieve data for organizational needs. They optimize database performance, ensure data integrity, and implement security measures.
- **Data Quality Engineer :** A Data Quality Engineer ensures the accuracy, consistency, and reliability of data across systems and processes within an organization. They develop and implement data quality frameworks, standards, and procedures to identify and rectify data issues.

Success Stories

Ferilion Labs was launched in June 2023. We have started this to pursue our goal of providing training in high-demand programs in a simulated corporate environment. Having placed over 90+ candidates in last 6 Months with 100% Placement Rate and 96% Survival Rate in illustrious companies through Ferilion Labs and 700+ closures in the last 4 years with a 100% Placement Rate and 88% Survival Rate from previous training and placement experiences, we took a leaf from the old book in helping bridge the skill gap that is prevalent in the IT world.

Trainees with 4+ years of Experience

Trainees with 3+ years of Experience



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Contact Us

Join us at Ferilion Labs and embark on a journey of limitless possibilities. Together, we're shaping careers, transforming lives and creating a brighter future through the power of education.

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Google location and reviews

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