



WEB AGE SOLUTIONS INC

Data Engineering and Data Analytics Upskilling Trends in 2021

(Everything you need to know in 10
minutes)



HOT TOPICS FOR 2021

Data
Science

Machine
Learning
& AI

Data
Engineering

Data
Analytics &
Dashboarding

Data
Warehousing

Data Science allows companies to make sense of Big Data from multiple sources to make smarter business decisions. Studies reported gains from analyzing big data to be an average 8% increase in revenues and a 10% reduction in costs.*

Data science is a new discipline emerged in response to the challenges of analyzing Big Data and focuses on extraction of knowledge and business insights. It does so by leveraging techniques and theories from many applied and pure science fields such as statistics, pattern recognition, machine learning, data warehousing, data visualization, scalable and high performance computing, etc. A Data Scientist is someone who uses existing data to train machine learning (ML) algorithms to make predictions and/or generalize (take actions) on new (never seen before) data; practitioners in the field apply scientific experimentation techniques when working with data trying out different ML models.

.Source: <https://bi-survey.com/big-data-benefits>

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Machine Learning (ML) is a subset of data science that uses existing data to train ML algorithms to make predictions or take actions on new (never seen before) data.

Speech recognition and fraud detection are some common use cases of machine learning.

Artificial Intelligence (AI) aims at automating / augmenting / substituting complex human activities through a number of specialized computer assisted solutions. Machine Learning is a subset of AI.



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Data engineering is a practice of design, development, and productionizing of data processing systems to support Data Scientists and Data Analysts

Data processing includes all the practical aspects of data handling, including data acquisition, transfer, transformation, and storage on-prem or in the cloud. A Data Engineer is someone whose activities are carried out in support of the Data Scientist and Data Analyst roles with their data needs.

Data analytics deals with historical data in the context of a specific problem domain. Dashboards are essentially visual reports that use data visualization to gain a deeper understanding of the data.

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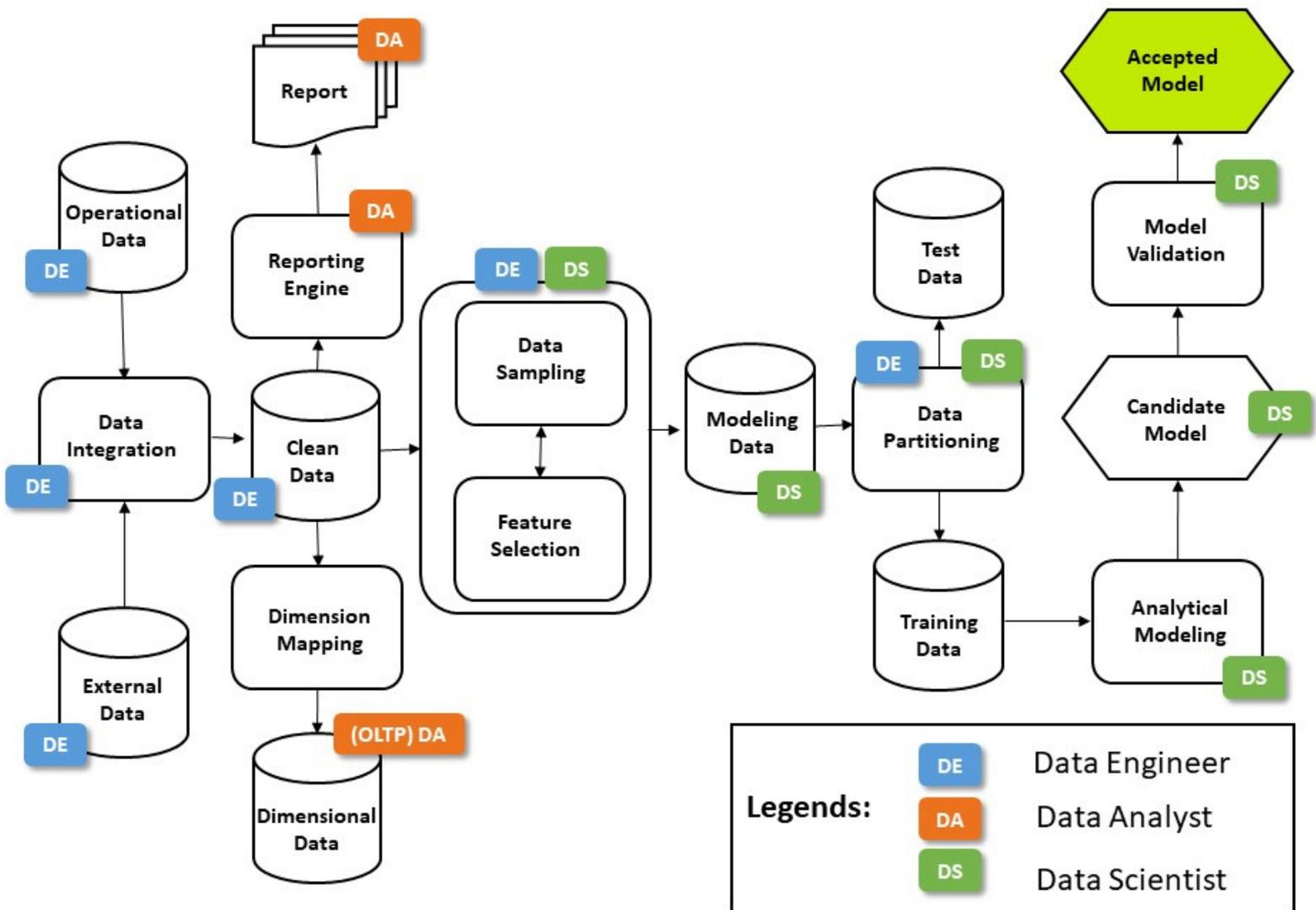
Data
Warehousing

Data warehouse is an enterprise repository for structured data that has been preprocessed to facilitate data analysis and reporting. Nowadays, the concept of organizing and processing data in a data warehouse is usually extended to include the concept of a Data Lake.

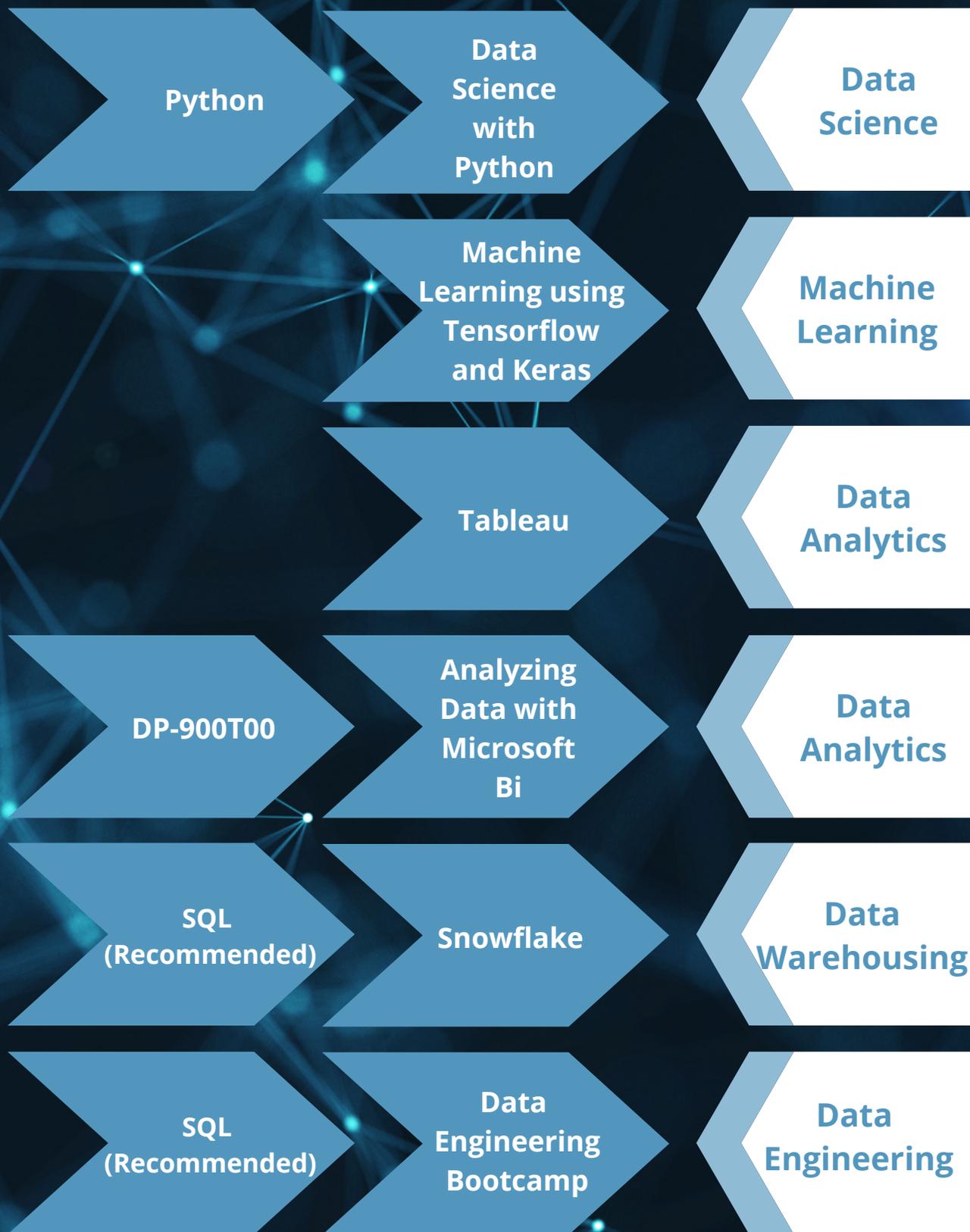
The workflows of data ingestion (ETL), preparation, and processing in a data warehouse follow well-established and strict rules. The primary query language is SQL or the platform-specific data querying system. The datasets must be carefully curated to lend them high quality.



Mapping Data- Related Roles to Data Processing Concerns



Skills Mapping and Training Roadmap



Training Roadmap Using Web Age Solutions Courses

Data Science

- [Python \(WA3016\)](#)
- [Data Science with Python \(WA2715\)](#)

Machine Learning

- [Machine Learning Using Tensorflow and Keras \(WA2906\)](#)

Data Analytics

- [Microsoft Azure Data Fundamentals Training \(DP-900T00\)](#)
- [Analyzing Data with Microsoft Power BI \(DA-100T00\)](#)

Data Analytics

- [Tableau \(TP2763\)](#)

Data Warehousing

- [Introduction to SQL \(WA3021\)](#) (Recommended, not required)
- [Snowflake \(WA3063\)](#)

Data Engineering

- [Introduction to SQL \(WA3021\)](#) (Recommended, not required)
- [Data Engineering Bootcamp \(WA3020\)](#)

Case Studies



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THE COMPANY

A Fortune 500 insurance company wanted to train their SQL developers so they could do Big Data analytics in the cloud.

UPSKILLING NEEDED

Data Analytics on AWS and Working with the AWS CDK in TypeScript

Our client wanted to upskill their SQL programmers to perform cloud-based analytics. The client wanted to teach the employees serverless processing as well as automation of their analytics operations. We worked with the client's SME team to design a program that taught the students foundational Spark and Glue, the main AWS analytics engine. We introduced these programmers to Snowflake, the data warehouse product the company used on AWS as well as Tableau for dashboarding. The programmers were also taught the AWS CDK to automate their analytics operations.

In designing the program, Web Age customized all off-the-shelf content to optimize the student time away from work. We delivered the training in half-day chunks so the students could continue to work for the rest of the day. These distinct considerations made the client choose Web Age for this delivery.

TIMEFRAME

The program was delivered over 3 weeks.

OUTCOME

50 Jumpstarted their Big Data Analytics program by training 50+ developers



Solid reviews from the students and the stakeholders on the content and the instructors



Program set up to train similar number of employees in the future



Students and managers reporting desired knowledge gain

THE COMPANY

A Fortune 500 consulting company needed their consultants to learn foundational Data Science and Data Engineering skills.

UPSKILLING NEEDED

Data Science using Python and Data Engineering with PySpark

Our client wanted to upskill their consultants to take part in their Data Science and Data Engineering projects. Our Data Science using Python course was chosen as it teaches all the core Data Science algorithms through hands-on exercises. The Data Engineering with PySpark course similarly provides hands-on experience for the students in foundational data engineering skills as well as data quality and analytics.

TIMEFRAME

Both two-day courses are packed with lecture material and hands-on exercises.

OUTCOME

100

Trained 100+ consultants in Data Science and Data Engineering to address the current skills shortage



Solid reviews from the students and the stakeholders on the content and the instructors



Program set up to train many more employees in the future



Students have shown appetite for more advanced level topics

WEB AGE SOLUTIONS

Web Age Solutions is an IT training company serving large enterprises, including Fortune 500 clients.

We help our clients empower their employees and ensure they thrive by supporting them with a range of training solutions.

From a rich and extensive portfolio of courses tailored to provide fully customized programs, we offer a range of course delivery methods that meet client needs. Serving clients since 1999, we have built up a reputation as a trusted partner that offers peace of mind and exceptional results.

OUR CORE VALUES

Be Easy

Go the Extra
Mile

Take
Ownership



Why Choose Web Age Solutions

Dependable

20 years of delivering quality training to large corporate clients. Our average evaluation is 8.5/10.

Multi Modal

Instead of just sending off course material, we collaborate with your organization and students to offer support for different learning styles. We can include your eLearning library such as PluralSight, Udemy or LinkedIn learning in delivery or in the learning path

Flexibility

Web Age Solutions is flexible on how courses are delivered to optimize your training time and money

Custom

We offer affordable course tailoring and customization or content development depending on your needs. For about 50% of our deliveries, we tailor content for free, customize by combining content from multiple classes at a nominal charge or develop content at a very reasonable price, may that content be generic or company specific.



How Do We Get Started?

Contact getinfo@webagesolutions.com to
find out more.



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