

ONLINE MASTERS IN **DATA SCIENCE**

DSC 207 - PYTHON FOR DATA SCIENCE

DATA SCIENCE ROLES IN THE INDUSTRY

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COMPUTER SCIENCE & ENGINEERING
HALICIOĞLU DATA SCIENCE INSTITUTE



Planning for Success in this Course

- Recite some of the main data science job titles in the industry today
- Explain the differences between data analyst, data engineer and data scientist
- Create career goals or a roadmap for yourself based on your interests in this field



Data Roles in the Industry

- Experience in quantitative analytics with a focus on marketing analytics, statistical modeling, machine learning, digital attribution, forecasting, and/or predictive analytics.

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Marketing Data Scientist, Devices and Services Marketing

In-office: Mountain View, CA, USA Atlanta, GA, USA New York, NY, USA ⓘ +2 more locations

Qualifications:

- Bachelor's degree in Statistics, Quantitative Marketing, Computer Science, or equivalent practical experience.
- 4 years of experience in an analytical role.
- 4 years of experience applying quantitative modeling to business problems, including experience with databases, SQL queries, and visualization tools.
- 3 years of experience in statistical analysis and programming (Python, R, etc.).

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Business Data Scientist, gTech Users and Products, Analytics

In-office: Singapore ⓘ

Qualifications:

- Bachelor's degree in Statistics, Mathematics, Computer Science, or equivalent practical experience.
- 5 years of experience working in an analytical field (e.g., management consulting, investment banking, internet/media industries, etc.).
- Experience in coding within Python or R.
- Experience working with SQL.

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Data Scientist, Commerce

In-office: Tel Aviv-Yafo Israel ⓘ

Qualifications:

- Master's degree in a quantitative field such as Statistics, Computer Science, or Mathematics, or equivalent practical experience.
- Experience with statistical software such as R or Python, and database languages such as SQL.

Data Engineer, Business Strategy and Operations, Core

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In-office: Sunnyvale, CA, USA San Francisco, CA, USA Remote eligible ⓘ

Qualifications:

- Bachelor's degree or equivalent practical experience
- Experience in engineering, business intelligence, consulting, or a relevant industry/discipline
- Experience with ETL activities such as data extraction, data transformation, batch processing, etc.
- Experience with database schema design creating and managing a data warehouse and experience with SQL and other business intelligence and reporting query systems

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Full-time

Full-time

Data Science Strategy Lead,
North America
Facebook App
San Diego, CA
via ZipRecruiter

Full-time

Data Science Strategist,
Network
Facebook App
San Diego, CA
via ZipRecruiter

Full-time

Data Engineer, Analytics
Facebook App
San Diego, CA
via ZipRecruiter

Full-time

Data Science Manager,
Analytics
Facebook App

Research Data Scientist

Facebook App
San Diego, CA

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Full-time

Job highlights

Identified by Google from the original job post

Qualifications

- Degree in quantitative field (e.g. Computer Science, Engineering, Mathematics, Statistics, Operations Research or other related field)
- 6+ years of experience doing quantitative analysis including experience with SQL, other programming languages (e.g. Python) or statistical/mathematical software (e.g. R, SAS, MATLAB)
- 6+ years of experience with statistics methods such as forecasting, time series, hypothesis testing, classification, clustering or regression analysis

Responsibilities

- In your work, you will focus on data science
- Identify how to expand Facebook's data science capabilities
- Work closely with product and engineering teams to develop and

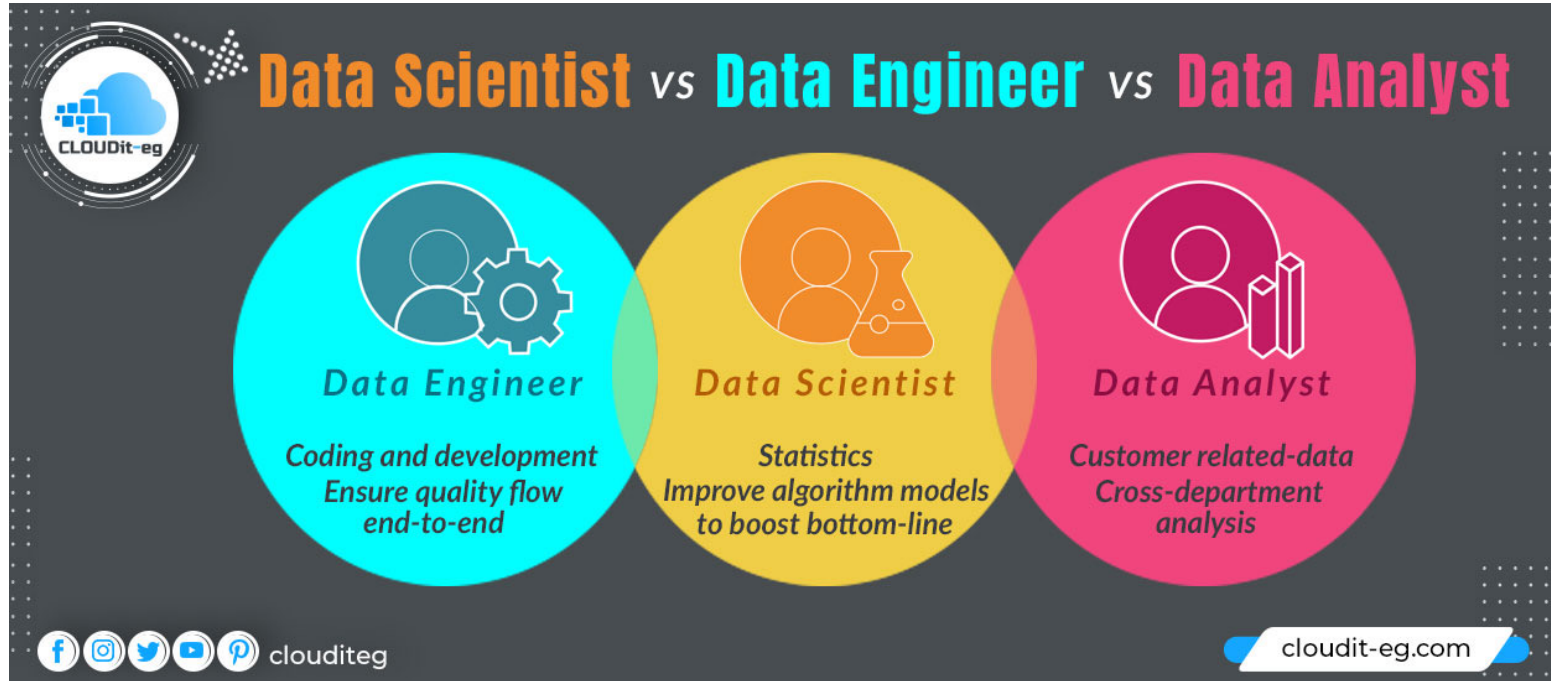


Image Source: <https://cloudit-eg.com/data-scientist-vs-data-engineer-vs-data-analyst/>

Some Responsibilities:

- Acquire and ingest data
- Create data pipelines
- Model data
- Test and validate data for quality and compliance
- Create new features
- Maintain data ethics


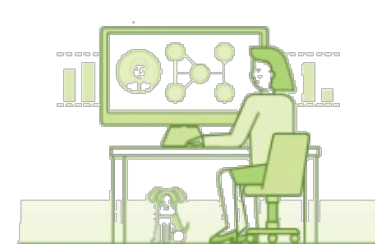
What's the difference between a data analyst and a data engineer?

Data scientists and **data analysts** analyze data sets to glean knowledge and insights. **Data engineers** build systems for collecting, validating, and preparing that high-quality data. Data engineers gather and prepare the data and data scientists use the data to promote better business decisions.

Image Source: <https://www.coursera.org/articles/what-does-a-data-engineer-do-and-how-do-i-become-one>

Machine Learning Engineer

Machine learning engineer vs. data scientist

Machine Learning Engineer	Data Scientist
EDUCATION <ul style="list-style-type: none">■ Computer science, mathematics, statistics or a related degree.■ Master's degree in machine learning (ML), neural networks, deep learning or related fields.	EDUCATION <ul style="list-style-type: none">■ Master's or doctorate in mathematics, statistics or computer science.
EXPERIENCE AND SKILLS <ul style="list-style-type: none">■ A combination of skills in math and statistics, software engineering, data science, numerous programming languages, data structures, data modeling, and software and computer architecture.■ Experience in working with ML frameworks, and ML libraries and packages.	EXPERIENCE AND SKILLS <ul style="list-style-type: none">■ A combination of mathematical and statistical knowledge, programming expertise, as well as analytical skills including familiarity with ML, software development, Hadoop, Java, data mining/data warehouse, data analysis and Python.■ Experience in working and creating data architectures; familiarity with advanced statistical techniques/concepts.
EXPECTATIONS <ul style="list-style-type: none">■ Design, research and implement ML systems algorithms and tools. Training and retraining systems as needed.■ Run machine learning tests and improve models based on those tests.■ Select appropriate data sets and representation methods, perform statistical analysis and verify data quality.■ Identify differences in data distribution that affects model performance.■ Develop machine learning apps according to client requirements and extend machine learning libraries.	EXPECTATIONS <ul style="list-style-type: none">■ Data scientist roles require the creation of algorithms and predictive models that extract the needed information to solve complex problems. Focus on designing and constructing new processes for data modeling and production.■ Able to use predictive modeling to increase and optimize customer experiences, revenue generation and ad targeting. Develop custom data models and algorithms; develop processes and tools to monitor and analyze model performance.■ Ask unique questions and predict future trends.
	

A bridge between data science teams systems!

Some Responsibilities:

- Test, optimize and deploy machine learning libraries, methods and systems
- Create data product prototypes
- Package deployable machine learning services
- Develop applications involving machine learning

How do you decide what data role is for you?

