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| **W3.5 – Data Science Salaries**  **Source: https://www.datacamp.com/blog/data-science-salaries** |

**Data Science Salary Expectations in 2023**

Find out how much you can earn and how to boost your existing salary in data science, one of the most exciting and in-demand fields in the job market.

alary expectations are always a key factor when looking for new job opportunities and, if you are considering breaking into data science, here is the great news: data scientists, as well as other data-related jobs, command some of the highest salaries in the tech industry.

According to [**2023 data from the US Bureau of Labor Statistics**](https://www.bls.gov/ooh/fastest-growing.htm), data science is one of the fastest-growing occupations, with an estimated growth rate of 36% between 2021 and 2031. Across nearly every industry, organizations are competing for data science professionals to leverage their data and drive smart business decisions. However, since the supply of data professionals has not yet caught up with the demand, the competition between companies in hiring these professionals is fierce compared to other tech sectors. As a result, employers are willing to pay top salaries to talented data scientists.

Notwithstanding the profitable honeymoon this field is experiencing, it is important to note that data science salaries can range considerably across professionals. Employers take into account several factors when deciding how much to pay, including experience, skills, job title, or company size.

In this article, we will provide an overview of the data science salaries in 2023. We will study the different criteria that influence salary based on the data from several job portals, such as Glassdoor and  PayScale, public data from the U.S. Bureau of Labor Statistics, and job surveys, like the O’Reilly Data Science Salary surveys. To narrow our subject matter, we will only focus on the salary landscape in the U.S.

## Data Science Salaries by Experience

How much does a data scientist earn on average? According to [**Glassdoor**](https://www.glassdoor.com/Salaries/data-scientists-salary-SRCH_KO0,15.htm), the average base pay for data scientists in the U.S. is $146,422 a year. The confidence in the estimate is high.

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The salary is a bit lower when looking at the data from [PayScale](https://www.payscale.com/research/US/Job=Data_Scientist/Salary), which gives an average estimate of $98,951 a year based on 8,912 salary profiles.

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However, the average salary of a data scientist changes with the level of experience. As reported by [**PayScale**](https://www.payscale.com/research/US/Job=Data_Scientist/Salary), if you are an aspiring data scientist looking for your first job in the field, you can expect on average a salary of $87,000. Data scientists with 1-4 years of experience, on the other hand, can expect a total compensation of $98,000, while 5-9 years of experience means an average salary of around $113,000. These averages have increased by around $2,000 per year since we last collated this data in 2022. Plus, the pay only improves with seniority. For example, the mean salary for data.

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It should come as no surprise that the median salary changes with the level of experience. As reported by PayScale, the salary for a beginning data scientist (with less than a year of experience) is $86,694 on average. Data scientists with 1-4 years of experience, on the other hand, can expect a total median compensation of $97,691, while 5-9 years of experience means earning $112,954. The average annual salary for senior data scientists, however, is over $135,000.

These estimates are in line with the findings of the [**O’Reilly 2021 Data/AI Salary Survey**](https://www.oreilly.com/radar/2021-data-ai-salary-survey), which estimates that the average change in compensation over the last three years in the data science/AI field is $9,252, which corresponded to an annual increase of 2.25%.

## Data Science Salaries by Job Title

Data professionals is a rubric that encompasses several roles, including data scientists, data engineers, data analysts, and machine learning engineers. The responsibilities, qualifications, and, ultimately, salaries vary widely across these professionals. In general, the more a data science professional deals with managerial responsibilities (e.g., leading team projects and communicating directly with clients), the higher the compensation.

Below you can find a list of salary ranges and averages of data science professionals, ordered by their mean salary, according to Glassdoor:

### **Data Science Manager**

This role is a managerial role that involves decision-making. Data science managers are in charge of the project operations, acting as an intermediary between the team of analysts, scientists, data architects, and the client. They must understand the technology even though they are not in charge of its development. **Salary average**: $167,012K. **Salary range**: $130K - $273K.

### **Machine Learning Engineer**

Machine learning engineers are highly skilled programmers who develop models that use large data sets to research, develop, and generate algorithms that can learn and make predictions. This is one of the most complex and profitable careers in data science. To get started, we highly recommend enrolling in our [**Machine Learning Scientist with Python**](https://www.datacamp.com/tracks/machine-learning-scientist-with-python) career track. **Salary average**: $133K. **Salary range**: $85K - $213K.

### **Data Scientist**

A [**data scientist**](hhttps://www.datacamp.com/blog/how-to-become-a-data-scientist) researches, extracts, and reports meaningful insights present in data. To do so, data scientists use computers and programming languages to process all the information, make complex calculations, create useful data visualizations, and obtain results. Do you want to become a data scientist? Datacamp has great career tracks to become one, either with [**Python**](https://www.datacamp.com/learn/python) or [**R**](https://www.datacamp.com/learn/r). **Salary average**: $127K. **Salary range**: $79K - $207K. Read more about [**data scientist salaries around the world**](https://www.datacamp.com/blog/data-scientist-salaries-worldwide) in a separate article.

### **Data Engineer**

[**Data engineers**](https://www.datacamp.com/blog/how-to-become-a-data-engineer) are responsible for laying the foundations for the acquisition, storage, transformation, and management of data in an organization. It is one of the most in-demand careers in data science.  **Salary average**: $117K. **Salary range**: $76K - $184K. Check out our full guide on [**data engineer salaries around the world**](https://www.datacamp.com/blog/data-engineer-salary-worldwide) to learn more.

### **Cloud Engineer**

A cloud engineer is a data professional who deals with cloud-related work. Typically, this includes the management, planning, architecture, and monitoring of cloud systems. More and more companies are turning to cloud services. If you want to get started in this highly sought-after discipline, our course [**Understanding Cloud Computing**](https://www.datacamp.com/courses/understanding-cloud-computing) is a great place to begin. **Salary average**: $151K. **Salary range**: $94K - $252K.

### **Data Analyst**

They are responsible for processing the data that the company already has. One of their regular tasks is using databases to make reports and dashboards. If you are interested in [**becoming a data analyst**](https://upskillwise.com/how-to-become-a-data-analyst), check out our [**Data Analyst with Python Career Track**](https://www.datacamp.com/tracks/data-analyst-with-python). **Salary average**: $70K. **Salary range**: $46K - $108K.

### **Data Steward**

This specialist is responsible for ensuring the quality, security, and availability of the data. Data stewards are crucial actors in managing and monitoring an organization's data assets to help provide business people with high-quality data with great accessibility. **Salary average**: $58K. **Salary range**: $38K - $90K.

## Data Science Salaries by Company Size

A company’s size is another relevant factor influencing data science salaries: in general, the larger the organization, the larger the salary. The [**O’Reilly 2016 Salary Data Science Salary Report**](https://www.oreilly.com/radar/2016-data-science-salary-survey-results) shed light on this factor.

According to their publication, data scientists working in companies with more than 1,000 employees would receive a median salary ranging from $90,000 to $110,000, whereas the median salary of data professionals working in medium-sized companies (26 to 1,000 members) is around $80,000. Employees working in small companies and startups (2-25 members) tend to have a lower median salary of around $60,000.

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## Data Science Salaries for Freelancers

With the advantages of working from home growing, more and more people are wondering if now is the right time to try out freelancing. Data professionals are not exempt. In recent months, the number of data science jobs available on popular freelancer platforms, such as [**Upwork**](https://www.upwork.com/), has skyrocketed.

If you are considering this option, you may be wondering how much freelance data scientists make. According to [**Glassdoor**](https://www.glassdoor.co.uk/Salaries/us-freelance-data-scientist-salary-SRCH_IL.0,2_IN1_KO3,27.htm?clickSource=searchBtn), their average salary in the US is $100,492, with salaries ranging from $61K to $168K.

However, the earnings of freelance data scientists are highly dependent on factors such as their skills, experience, and reviews.  As a result, the salary range between junior and senior data scientists is very wide. For example, this [**research**](https://freelancedatascientist.net/freelance-data-scientist-salary) based on data from Upwork shows that a novice freelance data scientist can charge $50/hour, whereas an experienced data scientist can charge up to $150-200/hour.

## Data Science Salaries across Industries

Data scientists are required in nearly every industry, but some have greater needs and are willing to offer more attractive salaries. Again, the [**O’Reilly 2021 Data/AI Salary Survey**](https://www.oreilly.com/radar/2021-data-ai-salary-survey) is a helpful resource for comparing salaries across industries.

Overall, data professionals working in the computer industry,e.g. computer hardware, cloud services, cybersecurity, or software development, reported the highest salaries with average compensations ranging from $171,000 (for computer hardware) to $164,000 (for software).  Nonetheless, the data also shows highly competitive salaries (over $100,000) across industries outside computing, including banking, retail, fashion, and insurance. This picture is consistent with the latest [**occupation data**](https://www.bls.gov/oes/current/oes152051.htm#ind) released by the U.S. Bureau of Labor Statistics.

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## Data Science Salaries by Skills

Data science is a rapidly evolving field. New technologies and software are constantly mushrooming. This makes training not only an important aspect for catching up with innovation, but also a factor closely correlated to higher salaries, ability to be hired, and job security.

Overall, some rare, sought-after competencies allow data scientists to significantly increase their salary demands. Computer programming, mastery of big data tools, cloud computing, and data visualization are among the most valued skills. Likewise, personal qualities such as scientific curiosity, business savviness, communication skills, and leadership can greatly increase compensation. Below you can find a list of skills, according to [**PayScale**](https://www.payscale.com/research/US/Job=Data_Scientist/Salary), that affect data scientists' salaries:

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According to the [**O’Reilly 2021 Data/AI Salary Survey**](https://www.oreilly.com/radar/2021-data-ai-salary-survey), cloud training, particularly in Amazon Web Services (AWS) and Microsoft Azure, was the skill most strongly associated with higher salary increases.  Other important skills that respondents mentioned were machine learning, container technology (e.g. Docker and Kubernetes), MLOps, and data science pipelines tools, such as Kafka.  Regarding programming languages, the survey shows that the less common languages in data science, e.g.  Rust, Go, or Scale, are also closely associated with high salaries.

Question: What technologies will have the biggest effect on compensation in the coming year?

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## Data Science Salaries by Location

Data science salaries are also strongly dependent on location. Average compensation differs significantly within the United States, as shown by the data from the [**U.S. Bureau of Labor Statistics.**](https://www.bls.gov/oes/current/oes152051.htm#ind)

Overall, mean salaries tend to be higher in states along both the East and the West Coast, with average salaries highest in California ($147,390), Washington ($140,780), Virginia ($133,990), Delaware ($133,320), and New Jersey ($129,980).

This comes as no surprise: the cited states align with some of the biggest tech hotspots in the country, including San José —also known as the capital of Silicon Valley—, San Francisco, Seattle, and New York, where data science professionals normally earn good six-figure salaries.

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## What You Can Do to Increase Your Salary

Data science is a vibrant and highly disruptive field in itself.  The ecosystem is changing at a fast pace, with new technologies, tools, and software constantly being introduced, which makes it very difficult to predict what things will look like in 10 years.

Given this environment, [**continuous training is key for data professionals**](https://www.datacamp.com/blog/12-best-practices-to-grow-in-your-data-career) not only to keep up with the speed of innovation but also to achieve salary increases or promotions. Indeed, learning new skills and improving old ones is regarded as one of the best routes to a promotion. In addition, investing in training programs is the preferable and most feasible strategy for employers to grow their data science and machine learning teams internally, given the shortage of qualified data science professionals.

What are the best pathways for upskilling? Depending on your time availability and how much your company is willing to invest in your education, you could consider the following options:

* Formal degrees in data science. Going for an advanced education program, such as a Ph.D. or a master’s degree in data science or a related field is a great way to level up in your organization. Most big tech companies are encouraging their employees to pursue these kinds of programs.
* Data science platforms. If you want to become a subject expert, sharpen your coding skills, or learn new technologies, you are probably looking for a course. There are many options out there, including DataCamp. Don’t miss the opportunity to explore our large [**catalog**](https://www.datacamp.com/courses-all) of courses, or sign up for one of our [**skill tracks**](https://www.datacamp.com/tracks/skill) to expand your areas of expertise.
* Data science certifications. Getting certified is becoming one of the more common and fastest ways to pick up or improve new data science skills. The list of certifications is rapidly growing, ranging from general data science certifications to vendor-specific and technology-specific ones. According to the [**O’Reilly 2021 Data/AI Salary Survey**](https://www.oreilly.com/radar/2021-data-ai-salary-survey), cloud certifications, specifically in AWS and Microsoft Azure, were most strongly associated with salary increases.