

Data Scientists

SOC: 15-2051 • Career Profile Report

■ Key Facts

\$112,590

Median Salary

245,900

Employment

+34.0%

Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 12.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.0/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	7.4/10	Investigative	9.2/10
Artistic	4.6/10	Social	5.4/10
Enterprising	5.6/10	Conventional	6.8/10

■ Top Skills Required

Analytical skills, Computer skills, Communication skills, Logical-thinking skills, Math skills, Problem-solving skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Data Scientists are analytical professionals who use **statistics, programming, and domain knowledge to turn raw data into actionable insights**. This occupation sits at the intersection of computer science, mathematics, and real-world decision-making, helping organizations understand trends, predict outcomes, and optimize performance. Rather than simply reporting numbers, data scientists design models, uncover patterns, and translate complex findings into clear recommendations for business, government, healthcare, and research organizations.

This career is ideal for individuals who enjoy problem-solving, working with large datasets, and using data to answer meaningful questions. Data scientists often collaborate with engineers, analysts, and leadership teams to guide strategy and innovation.

What Do Data Scientists Do?

Data scientists collect, clean, and analyze structured and unstructured data to solve complex problems. They build predictive models, test hypotheses, and communicate insights in ways that support informed decision-making.

Common responsibilities include:

- Gathering data from databases, APIs, and external sources
- Cleaning, organizing, and validating large datasets
- Applying statistical analysis and machine learning techniques
- Building predictive and classification models
- Creating data visualizations and dashboards
- Translating technical findings into business or policy insights
- Collaborating with stakeholders to define data-driven goals

Areas of Specialization

Data science spans many industries and technical focus areas:

- Business and Product Analytics: Optimizing products, pricing, and customer experience.
- Machine Learning and AI: Developing algorithms that automate predictions and decisions.
- Healthcare and Bioinformatics: Analyzing medical and biological data to improve outcomes.
- Finance and Risk Analytics: Modeling markets, fraud detection, and credit risk.
- Marketing and Consumer Insights: Understanding user behavior and campaign performance.
- Public Sector and Research: Supporting policy decisions and scientific discovery.

Skills and Abilities Needed

Data scientists must combine technical depth with critical thinking and communication.

Core Technical Skills

Personal Qualities That Matter

Education and Training Pathway

Data scientists typically enter the field through strong quantitative and technical education:

- Bachelor's Degree: Commonly in data science, computer science, statistics, mathematics, or engineering
- Advanced Education (often preferred): Master's or PhD in data science, analytics, or a related field
- Practical Experience: Internships, projects, or portfolios demonstrating real-world data work
- Ongoing Skill Development: Learning new tools, frameworks, and modeling techniques

Where Do Data Scientists Work?

Data scientists are employed across nearly every data-driven sector:

- Technology and Software Companies

- Finance, Insurance, and FinTech Firms
- Healthcare Systems and Biotech Companies
- Retail, E-commerce, and Marketing Firms
- Government Agencies and Research Institutions
- Startups and Consulting Firms

Many roles offer remote or hybrid work options.

Is This Career Difficult?

Data science is intellectually demanding. Professionals must master complex mathematics, coding, and statistical concepts while also understanding the context behind the data. The challenge lies not just in building models, but in asking the right questions and ensuring results are accurate, ethical, and useful.

Who Should Consider Becoming a Data Scientist?

This career may be a strong fit if you:

- Enjoy math, statistics, and logical reasoning
- Like working with data to solve real-world problems
- Are comfortable learning new technologies
- Want a career with strong demand across industries
- Prefer analytical work with strategic impact

How to Prepare Early

- Take courses in Mathematics, Statistics, and Computer Science
- Learn programming basics (Python or R)
- Practice analyzing real datasets through projects or competitions
- Build a portfolio showcasing data-driven work
- Develop communication skills to explain insights clearly

Data scientists transform raw information into knowledge, powering smarter decisions, innovation, and progress across the modern economy.

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Source: <https://www.bls.gov/ooh/math/data-scientists.htm>