Career Paths

DATA SCIENCE

Data science is a rapidly emerging discipline that prepares you to collect, clean, organize, provide access to, analyze, and communicate data. It is a combination of computer science, databases, ethics, mathematics, and statistics at its core. You will ultimately learn to apply these skills to multiple other domains such as art, biology, business, climate, health, humanities, oceanography, science, social science, and more. (https://web.uri.edu/cs/academics/data-science/)

Companies and organizations are employing professionals in the field of data science to make sense of the massive amounts of data that can be collected and analyzed in order to derive insights and make strategic decisions. Based on this, the Bureau of Labor Statistics projects data science related careers will grow 33.8% from 2016 to 2026. The data science domain incorporates many elements including data analytics, data mining, machine learning, data modeling, and artificial intelligence (AI).

To prepare for a career in data science it is important to develop relevant technical and interpersonal skills, apply what you learn through project work and internships, connect with peers and professionals in the field, and engage in continuous learning and education. Evolving technology, in addition to changing demands regarding the analysis and application of data insights, makes this an exciting and challenging career field.

Technological & Software Development

Example Career Paths: Data analysis | Machine learning engineering | Data engineering | Software engineering | AI research science | AI product management | Consulting

Potential Employers: For-profit and nonprofit organizations | Product and service organizations | Manufacturers | Financial companies | Insurance companies | Print and electronic media outlets | Software and technology companies | Internet companies | Consulting firms

Professional Associations: Academic Data Science Alliance | Association for Computing Machinery – Special Interest Group on Knowledge Discovery and Data Mining

Related Occupations: Data Scientist | Database Architect | Computer Systems Analyst | Statistical Assistant | Data Warehousing Specialist | Statistician | Machine Learning Engineer | AI Research Scientist | Data Analyst

Finance & Banking

Example Career Paths: Data analysis | Quantitative analysis | Risk analysis | Business intelligence analysis | Credit analysis | Financial data analysis | Algorithmic trading | High-frequency trading | Financial analytics consulting | Trading systems development

Potential Employers: Banks | Large financial firms | Software and technology companies | Consulting firms

Professional Associations: Financial Data Professional Institute | Global Association of Risk Professionals

Related Occupations: Business Intelligence Analyst | Data Scientist | Financial Quantitative Analyst | Financial and Investment Analyst

Healthcare

Example Career Paths: Data analysis | Biostatistics | Clinical data science | Health informatics | Bioinformatics | Health data analysis | Healthcare data engineering | Health artificial intelligence | Healthcare analytics consulting | Quality improvement analysis | Digital health | Outcomes analysis

Potential Employers: For-profit and nonprofit organizations | Large healthcare corporations | Local, state, and federal government | Educational institutions | Hospitals | Consulting firms

Professional Associations: American Medical Informatics Association | Healthcare Information and Management Systems Society

Related Occupations: Clinical Data Manager | Bioinformatics Technician | Data Scientist | Health Informatics Specialist

Marketing

Example Career Paths: Data analysis | Recommendation systems engineering | Digital marketing analysis | Business development analysis | Customer insights & brand strategy analysis | E-Commerce marketing analysis | Marketing insights analysis | Market research analysis | Marketing data analysis | Marketing operations analysis | Marketing performance analysis | Product research analysis

Potential Employers: For-profit and nonprofit organizations | Large corporations | Marketing research firms | Public institutions concerning health, education, and transportation | Management consulting firms | Advertising agencies | Manufacturers | Retailers | Trade and industry associations | Government agencies | Nonprofit organizations

Professional Associations: Marketing Science Institute | American Marketing Association

Related Occupations: Market Research Analyst and Marketing Specialist | Marketing Manager | Data Scientist | Search Marketing Strategist | Business Intelligence Analyst | Data Technology Coordinator

Sports and Athletics

Example Career Paths: Sports data analytics and engineering | Scouting and recruitment analysis | Game strategy analysis | Fan engagement | Ticketing and revenue optimization analysis | Consulting

Potential Employers: Professional teams and leagues | Esports and gaming | Sports analytics firms | Media and betting platforms | Colleges and universities | Consulting firms

Professional Associations: Academic Data Science Alliance | Association for Computing Machinery – Special Interest Group on Knowledge Discovery and Data Mining

Related Occupations: Data Scientist | Statistician | Marketing Manager | Sports Data Engineer | Quantitative Analyst | Scouting Analytics Specialist | Sports Performance Analyst | Game Strategy/Tactical Analyst | Fan Engagement/Sports Marketing Analyst | Esports Data Scientist

Government & Public Policy

Example Career Paths: Data analysis | Policy analysis | Urban planning | Consulting

Potential Employers: For-profit and nonprofit organizations | Government agencies | State, local, and federal government | Print and electronic media outlets | Software and technology companies | Consulting firms

Professional Associations: Data Science Association | Institute for Digital Government

Related Occupations: Data Scientist | Operations Research Analyst | Public Health Data Scientist | Economic and Labor Data Scientist

Manufacturing & Logistics

Example Career Paths: Data analysis | Operations analysis | Supply chain analysis | Logistics analysis | Supply chain optimization

Potential Employers: For-profit and nonprofit organizations | Product and service organizations | Manufacturers | Financial companies | Insurance companies | Print and electronic media outlets | Software and technology companies | Internet companies | Consulting firms

Professional Associations: Institute for Operations Research and the Management Sciences | International Society of Automation

Related Occupations: Data Scientist | Manufacturing Engineer | Operations Research Analyst

Preparing for your Career

- Obtain education and training in the following areas: statistics, linear algebra, calculus, programming, databases, distributed computing, machine learning, visualization, experimental design, clustering, deep learning, and natural language processing.
- Acquire relevant technical experience through internships, part-time work, and co-ops.
- Develop foundational skills such as problem solving, critical thinking, communication, curiosity, adaptability, and teamwork.
- Explore resources such as LinkedIn to connect with data science professionals and learn about companies, industries, skills needed to succeed in the field.
- Engage in projects to apply skills and knowledge within practical settings.
- Create a resume that highlights your skills and experience related to data science, your specific technical skills, project work, and your unique qualifications.
- Complete relevant online courses and professional certification to enhance your skills and qualifications throughout your career.

This resource was adapted from What Can I Do With My Major.
For more, visit https://web.uri.edu/career/wcidwmm/