DATA SCIENCE

What can I do with this major?

The field of data science is continually changing. The areas listed below do not exhaust possible career options.
See also *What Can I Do With This Major in Business Analytics.*

AREAS	EMPLOYERS	STRATEGIES
TECHNOLOGICAL & SOFTWARE DEVELOP- Data analysis Machine learning engineering Data engineering Software engineering Consulting	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	Seek programming experience through volunteer positions, internships and co-ops. Develop attention to detail, logical thinking and communication skills. Exhibit patience and creativity for designing programs. Learn to work effectively independently on teams and with end-users while maintaining deadlines. Supplement degree with courses in business, science or engineering. Maintain current knowledge of programming languages; vendor and professional certifications may increase job prospects. Consider earning the Certified Computing Professional designation by completing a series of exams and experiential requirements. Earn a master's degree for upper level positions.
FINANCE & BANKING 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	Banks Large financial firms Software and technology companies Consulting firms	Seek broad exposure to business principles while honing statistics and quantitative skills. Gain relevant experience through an internship in an industry of interest. Develop excellent information technology, database management, and programming skills. Learn to use relevant software or tools such as Apache Hadoop, SQL, R, Python, and Tableau. Earn industry certifications (e.g., SAS and Google). Learn to work effectively on interdisciplinary teams and how to communicate data intensive information to colleagues.

AREAS	EMPLOYERS	STRATEGIES
FINANCE & BANKING continued		
		Develop strong analytical skills and a logical approach to problem solving. Get involved in campus organizations and seek leadership roles. Conduct informational interviews with professionals to learn about various industries or functional areas because data science professionals can fit into a wide array of positions. Consider earning a master's degree to qualify for advanced opportunities.
HEALTHCARE 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	For-profit and nonprofit organizations Large healthcare corporations Local, state, and federal government Educational institutions Hospitals Consulting firms	Develop strong analytical skills and a logical approach to problem solving. Skills in budgeting and cost management are also important. Gain related experience through internships or summer and part-time jobs. Take courses in public health, healthcare, and policy. Learn to manage multiple situations and problems. Be able to communicate effectively with different types of people in various functional areas. Earn an MBA or degree in public health to reach the highest levels of operations management.
MARKETING 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	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	Build a solid background in statistics, mathematics, and behavioral science. Strong analytical and problem solving skills and attention to detail are critical. Learn how to use databases and other marketing and statistical analysis software programs. Get involved with a professor's research project or pursue an independent study to learn about the research process. Gain experience with data entry and interviewing through part-time jobs or internships. Plan to obtain an advanced degree in business or statistics to qualify for more positions.

AREAS	EMPLOYERS	STRATEGIES
GOVERNMENT & PUBLIC POLICY Data analysis Policy analysis Urban planning Consulting	For-profit and nonprofit organizations Government agencies State, local, and federal government Print and electronic media outlets Software and technology companies Consulting firms	Seek broad exposure to systems of government principles while honing statistics and quantitative skills. Gain relevant experience through an internship in government or public policy. Develop excellent information technology, database management, and programming skills. Learn to use relevant software or tools such as Apache Hadoop, SQL, R, Python, and Tableau. Earn industry certifications (e.g., SAS and Google). Learn to work effectively on interdisciplinary teams and how to communicate data intensive information to colleagues.
MANUFACTURING & LOGISTICS Data analysis Operations analysis Supply chain analysis Logistics analysis Supply chain optimization	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	Develop analytics skills for data analysis and processing. Strong communication skills are critical. Develop the ability to take complicated issues/processes and explain them to people without a background in that area. Hone research skills and the ability to learn quickly and retain information well. Exhibit a willingness to learn and research in-depth information about clients' businesses. Plan to travel and work non-traditional hours. Expect to work closely with senior consultants and partners.

GENERAL INFORMATION

Consider a dual major to help shape toward a particular career, since data science intersects with a number of other fields
Examples: Biology for a career in bioinformatics; Political science/criminal justice for career in security and information policy; Fine arts for a career in animation; or, Business for some types of IT careers.
Develop strong interpersonal, communication and teamwork skills. Patience and perseverance are essential for data science professionals.
Complete informational interviews with current data science professionals to help establish career goals.
Obtain an internship, co-op or part-time job in a relevant area to increase employability. Related experience is essential to employers hiring data science majors.
Obtain vendor-specific or networking certifications to gain a competitive edge for some positions.
Obtain an area of specialization through a master's degree or by doing advanced coursework.
Prepare to learn new information on a regular basis through online discussions, classes, conferences, periodicals, and update your skills accordingly.
Note that a major in data science can lead to being a designer, creator, and inventor of new technology. Example areas include artificial intelligence, machine learning, virtual reality, or robotics.