## Cybersecurity Data Analyst / Data Scientist

Cybersecurity Data Analysts examine data from multiple sources with the goal of providing security and privacy insight. They design and implement custom algorithms, workflow processes, and layouts for complex, enterprise-scale data sets used for modeling, data mining, and research purposes. They identify the data needed, collect the data, clean the data, and then visualize, interpret, and report data findings. While both data analyst and data scientist roles center around data, one of the biggest differences between them is that data analysts look at what happened, while data scientists try to predict what will happen and how to influence future patterns.
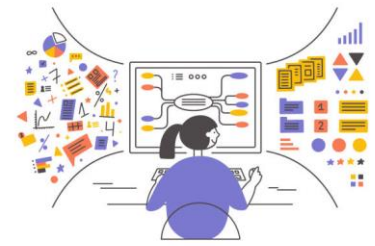
### EDUCATION

Many cybersecurity data analyst and data scientist occupations require a four-year bachelor's degree and a considerable amount of work-related skill, knowledge, or experience. However, some do not. While you can develop foundational knowledge and enhance your resume with a degree in math, computer science, or another related field, you can also learn what you need through alternative programs, like professional certificate programs, bootcamps, or self-study courses related to statistics, R or Python programming, Structured Query Language (SQL), data cleaning, preparation, and visualization.

### WHERE THEY WORK

The more we rely on digital devices and services, the more data we generate. Data tells businesses and organizations how people behave, off and online, in relation to their products and services. Data analysis can be used to alert businesses about potential fraud or scams, unusual network traffic patterns, and security breaches. Data analytics for cybersecurity focuses on monitoring and analyzing network traffic data, in order to prevent or identify malicious activities. It converts data into valuable insights, helping businesses improve their overall security posture. From healthcare to finance, from energy to education, and everything else in-between—data analysts are in high demand.

### FUN FACTOIDS

- There are nearly as many pieces of digital information as there are stars in the universe.
- Google uses about 1,000 computers to answer every single search query.
- Each year, an estimated 1 trillion photos are taken and billions of them are shared online.
- Nearly 80% of photos are taken on smartphones and most will become searchable data online.

### WHERE TO FIND OUT MORE

Bureau of Labor Statistics Occupational Outlook Handbook I Business Intelligence Analyst [www.bls.gov].

Academic Data Science Alliance [https://academicdatascience.org/]

The Institute for Operations Research and the Management Sciences [informs.org]

National Initiative for Cybersecurity Education I Workforce Framework for Cybersecurity [www.nist.gov/nice]

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**WHAT'S THE SALARY?**
$56,000-80,000 per year
Dependent upon industry sector and experience

**DOL RELATED OCCUPATIONS**
Business intelligence analysts, data scientists, database architects, statisticians, financial quantitative analysts, fraud examiners & investigators

**COMMON JOB TITLES**
Business intelligence analyst, operational analyst, database analyst, financial data analyst, reporting analyst, quantitative analyst, financial engineer, economist, professor

**COMMON CERTIFICATIONS**
Certified Analytics Professional, Cloudera Certified Associate Data Analyst, Google Data Analytics Professional Certificate, INFORMS Certified Analytics, MapR Certified Data Analyst, Microsoft Certified Solutions Expert

**NICE FRAMEWORK WORK ROLES**
Cybersecurity Data Analysts and Data Scientists may have one or more work roles as described in the Workforce Framework for Cybersecurity. The common work role is Data Analytics, but other work roles include Systems Security Analysis, Database Administration