

*CAREER***FOUNDRY**

Data Analytics

Program

Data Analytics Program

Program Information

Demand is greater than ever for professionals who know how to analyze, interpret, and apply data. Data analysts enable businesses to make better decisions. They can define what success means for a company as they work with management to create, track, and iterate on key performance indicators.

Data analysts are, above all, adventurers: they dive into the unknown—their organization’s data—and find interesting threads to pursue, revealing insights to solve customer issues and help the business grow. **Data analysts are also storytellers,** distilling and translating complex analyses and datasets into simple, absorbable insights that can be widely understood by individuals throughout the company.

Our Data Analytics Program will take you from beginner to professional and help you get a job you’ll love. Whether you have experience with data or not, our 8-month program will give you the skills necessary to succeed in a thriving industry.

There’s no other data analytics program on the market that combines a comprehensive, hands-on curriculum with individualized, expert mentorship quite like CareerFoundry’s. Keep reading to find out how it all works.



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What you'll get

- **Unlimited messaging with your tutor**
Through the CareerFoundry platform
- **Portfolio reviews**
And regular video calls with your mentor
- **Job Guarantee**
If you don't land a job within 180 days of graduation, we'll fully refund your tuition
- **14-day trial period**
Get your money back if the program isn't right for you
- **Flexibly paced**
Our 15-hour/week pace can be organised around any schedule
- **Access to our Job Preparation Course**
Opt in to the Job Preparation Course for unlimited, lifetime access to a career specialist to guide your job search
- **Lifetime access to our curriculum**
Written by expert data analysts working in the field
- **Free read-only access to our other career-change programs**
Learn more about web development and UX design for free
- **Active online student community**
Find a study buddy through online and in-person meetups

1.

Who is the program for and what are the requirements?

To succeed in the world of data analytics, you'll need to feel comfortable working with numerical data. A degree or background in math, statistics, or programming will definitely help, but it's not required! Knowledge and experience (the more, the better) in the fields of business, economics, logic, marketing, or math will help you succeed in the program, but it is not strictly required.

Beyond the numbers, communication, curiosity, critical thinking, and keen attention to detail are among the other skills that will help you succeed as a data analyst.

Note: the role of a data analyst differs from that of a data scientist, and it's important not to confuse these job titles when you're looking at job requirements and earning qualifications. Unlike data analyst roles, data scientist roles require very specific technical skills often acquired through advanced degrees in statistics, computer science, or mathematics, as well as experience with programming languages such as Python and R.

You'll use Excel throughout the Data Analytics Program, so we'll provide some resources at the very beginning to help you get started with Excel if you've never set it up. As you work through the program, you'll learn how to use all of the tools you'll need to complete your projects.

You'll use these industry-standard tools throughout the program:

- [Excel](#) [🔗](#) **for statistical evaluations and data visualizations**
You can use the free, one month long trial available for the Intro to Data Analytics part of the program. After this, you'll need to purchase one more month to cover the first Achievement in the Data Immersion part of the program. Once your trial runs out, you'll be given the option to purchase one month only (as opposed to a full subscription).
- [Tableau](#) [🔗](#) **for statistical evaluations and data visualizations**
You'll use the free-to-use "Tableau Public" version of the software.
- [Python](#) [🔗](#) **for advanced data analysis** using libraries such as [Pandas](#) [🔗](#) and [NumPy](#) [🔗](#), as well as visualization libraries for data dashboarding (free)
- [Anaconda](#) [🔗](#) and [Jupyter](#) [🔗](#) **for writing your Python scripts** (free)
- [PostgreSQL](#) [🔗](#) **for data querying and analysis** (free)
- [GitHub](#) [🔗](#) **for hosting your code and your analysis project work** (free)

System and hardware requirements

In terms of hardware, you'll need a laptop or computer (PC, Windows, or Linux). Here are the system and hardware requirements you'll need for all of the tools mentioned above.

macOS

Minimum Requirements	
Operating System	macOS versions 10.13 and later
Processor	Multicore Intel processor with 64-bit support
Monitor resolution	1024 x 768
RAM	4 GB RAM (64-bit)

Windows

Minimum Requirements	
Operating System	Windows 10
Processor	Multicore Intel processor with 64-bit support
Monitor resolution	1400 x 900
RAM	4 GB of RAM

2.

What will you finish the program with?

By the end of the program, you'll know how and when to use specific industry-standard tools, including **Excel, SQL, and Tableau**. You'll be comfortable using the programming language **Python**, and you will have numerous other coveted skills under your belt—including **statistical analysis and testing, data visualisation, data querying, and predictive analysis**. You'll also know how to employ a catalogue of techniques to visualize data, including building dashboards using Python visualization libraries.

You'll know how to **work with multiple data sets**, from customer data to product order data, with the aim of answering key business questions, and you'll explore the impact of bias and the fundamentals of **data science**. Critically, too, you'll develop the skills you need to collaborate with other analysts, engineers, and data scientists, as well as communicate with other stakeholders who will typically be reliant on your work for insights and recommendations.

Based on these projects and the knowledge you'll acquire through our expert-authored curriculum, you'll be qualified for data analyst or junior data analyst roles. If you have transferable skills from current or previous work experience, it may be possible for you to qualify for a more senior role. Your career specialist will help you to craft the right narrative to take into your job applications and interviews that will help you highlight these valuable and relevant skills.



The ZFU, or Staatliche Zentralstelle für Fernunterricht, is the state body for distance learning in Germany. In order to offer our Web Development Program publicly, it must undergo a rigorous quality assurance and certification process. On successful completion of this process, the program is assigned a unique approval number (7374920) which can be checked against a public register.

3.

What kind of support is available?

As part of the program, you'll receive support from your dedicated tutor and mentor, your student advisors, your career specialist and a community of fellow learners:



Your tutor

is a program expert who actively works in the field and provides individual feedback on your course assignments. CareerFoundry tutors are program experts who work in the field; responsible for carefully evaluating your submissions and ensuring you truly understand each exercise. They know the curriculum backward, forwards, and inside out—and they're ready to support you. As you progress throughout the program, your tutor will provide constructive feedback within 24 hours—highlighting where you can improve, and where you're on the right track.



Career Specialists

If you opt into the Job Preparation Course, you'll also have a dedicated career specialist who will provide individualized feedback for your job search strategy and application package. Your career specialist will answer all your questions throughout the Job Prep Course, and be there to support and advise you on how to get the most out of your job search and how to be eligible for our Job Guarantee. The support they offer will help you develop professional and job search skills that will benefit your career in data analytics—beyond just your first role as a data analyst.



Your mentor

is a seasoned and influential professional that we've hand-picked to provide industry insights, conduct video reviews of your portfolio projects, and give advice to help you forge your new career. You can schedule video calls with your mentor over the duration of the program, making them your personal introduction to a career in tech. CareerFoundry mentors are also well-versed in how to educate. They've walked the path before you, grappled with imposter syndrome, and learned from their mistakes. Above all, they know first-hand how challenging a career change can be. As senior experts across a myriad of sectors, they provide you with invaluable insights into working in your chosen field and ensure that the projects you choose are aligned with your career goals. Together, you'll create a portfolio that will tell your story—and help you stand out in the job market.



Fellow students

As a CareerFoundry student, you'll be part of an extensive community of fellow students, both during the program and after graduation. You can reach out to this community on Slack to discuss your coursework, organize meetups, or find a study buddy. As a part of our graduate community, you'll have lifetime access to this community, so you can keep in touch with your fellow graduates. We encourage students to work with a study buddy throughout the program—and we'll even help you find one! Working with a peer will make your studies easier, more successful, and more enjoyable than working alone. Study buddies motivate and keep each other accountable, discuss projects, help each other understand specific concepts, share knowledge, and give each other feedback. Our students also regularly organize in-person meetups around the world, where they network and share experiences.



Student Advisors

ensure you have the best possible experience throughout the program. You can message them from your dashboard (within the platform)—they're always happy to answer any questions you have about the administration of your program.

4.

How much time do you need to commit to the program?

Our Data Analytics Program is made up of two parts: the **Intro to Data Analytics Course** and the **Data Immersion Course**—for a total of 8 months of coursework (1 month for Intro, 7 months for Immersion).

The program requires an average of 15-20 hours per week, for a total duration of 8 months. Since you're not required to be online at specific times to work on the material, you have a great deal of flexibility in which hours you set aside for study. It's possible to finish the program in less than seven months—some students put aside time specifically to complete their program, dedicating an average of 30-40 hours each week, for a total program duration of four months. No matter your schedule, we'll help you make it work.

5.

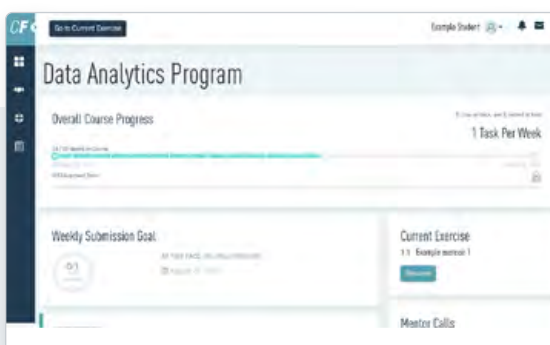
What is the structure and format of the program?

The program provides a **100% asynchronous, online learning experience that is flexibly-paced**—so while there is an overall completion deadline, you get to decide how to fit your study hours around other obligations.

Our curriculum is built with the beginner in mind, but it is comprehensive and rigorous—**created in-house by our team of curriculum designers**, and authored in collaboration with industry experts. The curriculum is hands-on and project-based, meaning that everything you do during the program will contribute to the development of your professional portfolio, which you'll use to showcase your best work to potential employers.

Our learning platform will guide you through the program reading materials, supplementary videos, and assignments, but you'll have plenty of support along the way. Your dedicated tutor and mentor will be there to answer questions, offer guidance, and provide rapid and extensive feedback (as well as final approval) on all of your projects. **There is no final exam:** the program is counted as complete once all the exercises have been reviewed and approved by your tutor and mentor. You will be able to download your certificate of completion directly from the dashboard.

If you're curious about how it will all look, take a tour of the [CareerFoundry learning dashboard](#) 



Program outline

The Data Analytics Program is divided into two parts:

Intro to Data Analytics

Learn how to prepare and analyze data: Develop critical skills to interpret business requirements that guide your data analysis.

- 1. Data Analytics in Practice**

Learn what data analysts do, what tools they use to process data, and how they apply their skills in different industries. Prepare to kick off your own analysis by getting familiar with the dataset you'll be working with in your course project.
- 2. Introduction to Excel**

Get hands-on with Excel, one of the primary tools used by data analysts to quickly access and generate key insights from data. Learn how to sort, filter, format, organize, and create useful visualizations from a dataset.
- 3. Understanding Your Data Set**

Analyze and describe your dataset—including where it came from, how large it is, and what's missing—in order to identify sources of bias and better understand how it relates to the problem at hand.
- 4. Cleaning Your Data**

Identify sources of error in your data, and learn how to clean your dataset to minimize potential issues.
- 5. Conducting a Descriptive Analysis**

Apply statistical methods to your dataset using Excel to complete a thorough descriptive analysis.
- 6. Developing Insights**

Form hypotheses around how a dataset will look, and generate useful insights about the data by comparing the behaviour of the data to your first estimates.
- 7. Visualizing Data Insights**

Build helpful visualizations of your data to present your findings to stakeholders. Based on the type of data you are working with, choose the most effective visualization for the problem you're trying to solve.
- 8. Storytelling with Data**

Present the results of your analysis to others, providing a compelling narrative around old and new assumptions, and insights into a business problem.

Data Immersion

Immerse yourself into the mindset of a data analyst through hands-on application of the processes and tools that data professionals use every day.

Achievement 1 - Preparing & Analyzing Data

You'll learn how to interpret business requirements to guide your data analysis and begin developing and designing your data project.

- | | | | |
|-----|--|------|--|
| 1.1 | A Brief History of Data Analytics | 1.6 | Data Quality Measures |
| 1.2 | Starting with Requirements | 1.7 | Data Transformation & Integration |
| 1.3 | Designing a Data Research Project | 1.8 | Conducting Statistical Analyses |
| 1.4 | Sourcing the Right Data | 1.9 | Statistical Hypothesis Testing |
| 1.5 | Data Profiling & Integrity | 1.10 | Consolidating Analytical Insights |

Achievement 2 - Data Visualization & Storytelling

You'll explore the different types of data visualizations and what they can be used for, as well as some basic visual design principles to ensure the visualizations you create are accessible and easily interpretable.

- | | | | |
|-----|---|------|---|
| 2.1 | Intro to Data Visualization | 2.6 | Statistical Visualizations: Scatterplots & Bubble Charts |
| 2.2 | Visual Design Basics & Tableau | 2.7 | Spatial Analysis |
| 2.3 | Comparison & Composition Charts | 2.8 | Textual Analysis |
| 2.4 | Temporal Visualizations & Forecasting | 2.9 | Storytelling with Data Presentations |
| 2.5 | Statistical Visualizations: Histograms & Box Plots | 2.10 | Presenting Findings to Stakeholders |

Achievement 3 - Databases & SQL for Analysts

You'll develop database-querying skills while mastering SQL, the industry-standard language for performing these tasks in the real world.

- | | | | |
|-----|---|------|---|
| 3.1 | Introduction to Relational Databases | 3.6 | Summarizing & Cleaning Data in SQL |
| 3.2 | Data Storage & Structure | 3.7 | Joining Tables of Data |
| 3.3 | SQL for Data Analysts | 3.8 | Performing Subqueries |
| 3.4 | Database Querying in SQL | 3.9 | Common Table Expressions |
| 3.5 | Filtering Data | 3.10 | Presenting SQL Results |

Achievement 4 - Python Fundamentals for Data Analysts

You'll get a thorough introduction to Python, the go-to language used by data analysts to conduct advanced analyses.

- 4.1 Introduction to Programming for Data Analysts
- 4.2 Jupyter Fundamentals & Python Data Types
- 4.3 Introduction to Pandas
- 4.4 Data Wrangling & Subsetting
- 4.5 Data Consistency Checks
- 4.6 Combining & Exporting Data
- 4.7 Deriving New Variables
- 4.8 Grouping Data & Aggregating Variables
- 4.9 Intro to Data Visualization with Python
- 4.10 Coding Etiquette & Excel Reporting

Achievement 5 - Data Ethics & Applied Analytics

You'll consider issues of data bias, data privacy, and data security. Then you'll be introduced to the worlds of big data analysis, machine learning, and data mining.

- 5.1 Intro to Big Data
- 5.2 Data Ethics: Data Bias
- 5.3 Data Ethics: Security & Privacy
- 5.4 Intro to Data Mining
- 5.5 Intro to Predictive Analysis
- 5.6 Time Series Analysis & Forecasting
- 5.7 Using GitHub as an Analyst
- 5.8 Preparing a Data Analytics Portfolio

Achievement 6 - Advanced Analytics & Dashboard Design

You'll work on an analysis project using data of your choosing and continue to build on your advanced analytics skills by taking a dive into machine learning and regression analysis

- 6.1 Sourcing Open Data
- 6.2 Exploring Relationships
- 6.3 Geographical Visualizations with Python
- 6.4 Supervised Machine Learning: Regression
- 6.5 Unsupervised Machine Learning: Clustering
- 6.6 Sourcing & Analyzing Time Series Data
- 6.7 Creating Data Dashboards

7.

What kind of projects will you be working on?

You'll have the opportunity to add six new projects to your portfolio as part of our Data Analytics Program. You'll finish the program with a variety of projects that meet the high standards of real-world deliverables. These include written reports, video presentations, dashboards, and case studies.

During **Intro to Data Analytics**, you'll work on one project:

Project 1

In the Intro to Data Analytics Course, you'll use Excel to analyze data on video game sales to inform the development of new games. You'll perform a descriptive analysis of a video game data set to foster a better understanding of how a company's new games might fare in the market.

During Immersion, you'll work on five projects:

Project 2

You'll use Excel and Tableau to conduct statistical evaluations and create data visualizations using multiple real world data sets from the health industry, in order to help a medical staffing agency that provides temporary workers to clinics and hospitals on an as-needed basis. The analysis will help plan for influenza season, a time when additional staff are in high demand. The final results will examine trends in influenza and how they can be used to proactively plan for staffing needs across the country.

Project 3

You'll use SQL to query and analyze data on online movie rentals. You'll present the results of your queries, relying on the visualization techniques you've learned from the previous Achievements.

Project 4

You'll use Python to analyze data from an online grocery store. You'll work with multiple data sets—from customer data, product data, and orders data—to answer key business questions. Throughout this Achievement, you'll get comfortable with using industry-standard tools and programming languages for analysis.

Project 5

You'll use Python visualization libraries to build a data dashboard.

Project 6

You'll work on a big data project exploring the impact of bias and you'll explore some fundamentals of data science. As part of this project you'll also build your portfolio.

8.

What will your portfolio look like?

You'll finish the program with a variety of project deliverables that meet the high standards of real-world project deliverables. These include written reports, video presentations, dashboards, and case studies.

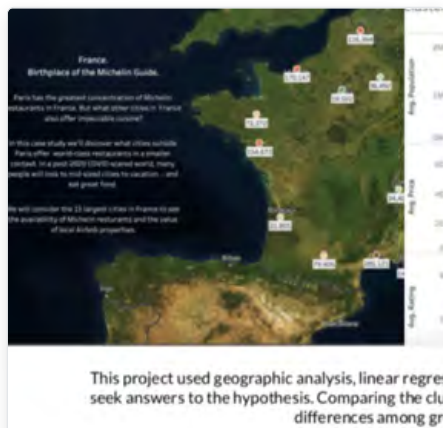
You'll add your case studies to your own portfolio which you'll present using Powerpoint or Google Slides. Your presentation will include links to Tableau which displays your visualizations and GitHub to show off your SQL and Python skills. If you decide to take our Job Preparation Course, we'll provide additional guidance as you brand your portfolio to meet your career goals—as well as as feedback on the overall look and feel of the analysis, and how your projects are presented. Here are some examples of projects created by some of our Data Analytics Program graduates during the Data Immersion Course:



Brittany Anderson-Freese
Data Analyst



[See project](#)



Matthew Errington
Data Analyst

[See project](#)



Elizabeth Decker
Data Analyst

[See project](#)

Instacart Grocery Basket

Objective

As an analyst for Instacart, an online grocery store, Instacart already has very good sales, but they want to understand their sales patterns. Our task is to perform an initial segmentation based on the provided criteria.

Context

The Instacart stakeholders are most interested in understanding the database along with their purchasing behaviors. They are using the same methods, and they're considering how to target different customers with applicable strategies that they have an effect on the sale of their products.



Farhod Furkatov
Data Analyst

[See project](#)


Rockbuster Stealth Database Project

The main purpose of the sample project is to launch a strategy to help to better understand the Rockbuster Database and have better investments.

My role as a data analyst is to help with the launch of the strategy, business questions that other departments might have. My job is to relational database management system (RDBMS) Rockbuster database inventory, customers and payments among other things. Tools used to answer the following questions:

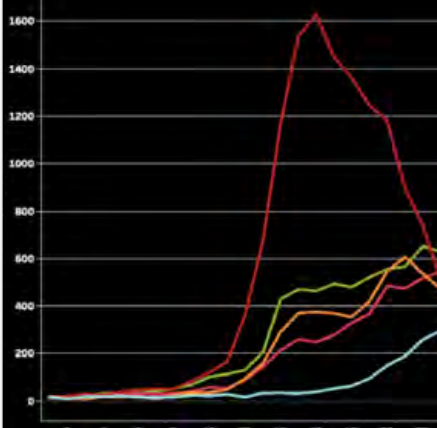

Key Questions:

- Which movies contributed the most/least to revenue gain?
- What was the average rental duration for all videos?
- Which countries are Rockbuster customers based in?
- Where are customers with a high lifetime value based?
- Do sales figures vary between geographic regions?



Morwarid Najafizada
Data Analyst

[See project](#)

Stephanie Kopet
Data Analyst

[See project](#)


Employers and hiring managers are looking for a junior data analyst that has concrete skills with evidence to back them up. For this reason, less weight is placed on what the project is that you present in a portfolio or on a website. Instead, employers will be looking for how specific tasks were performed within the project, such as calculating descriptive statistics, manipulating data, creating visualizations, identifying key data trends, and distilling those into recommendations. Each of the projects in the program have been designed specifically for this purpose—to ensure you'll be able to develop and demonstrate the required technical and communication skills of a junior analyst.


You'll have more freedom in the final project you work on—you'll be able to select a dataset for yourself and design a data dashboard using the results of your analysis. So, if you have a particular domain in mind for where you'd like to work, we recommend that you use this as an opportunity to complete a project with data from this domain.


9.

What do you need to do to be eligible for the Job Guarantee?

Here's the checklist of the requirements you'll need to meet in order to be eligible for our Job Guarantee— as well as what you'd need to do or provide if, for some reason, you weren't able to find a job after the job search period (180 days after graduation).

For more information on the guarantee and job search process, check out our [Career Services Brochure](#) .

- You're at least 18 years of age, and have completed a high school diploma
- You're located within the [list of metropolitan areas in selected countries](#)  or you're willing to relocate for work
- You're willing to accept both remote and non-remote positions
- You've completed 100% of your program, with all Achievements approved by your mentor
- You've completed the Job Preparation Course within one month of graduating from your main program
- You have no outstanding CareerFoundry program fees
- You've updated or created your online professional profiles (such as LinkedIn and Stack Overflow) and they have been approved by your career specialist
- You've update your resume (CV) with your new skills and it has been approved by your career specialist
- You've completed at least one call with your career specialist within three months of graduation
- You've demonstrated that you're actively using your new skills through showcasing a minimum of three completed portfolio projects
- You've taken the initiative to check in every other week with your career specialist and update them on your progress
- Proof of at least five job applications per week during the job search period
- You have a valid work permit for the country you want to work in, and you're able to speak the local language
- You are unable to find a job in the field within six months
- You don't have paid work in your new field exceeding 15 hours per week/60 hours per month

For a full list of the requirements that must be met in order to be eligible for a refund, take a look at [our Terms and Conditions \(under §15\)](#) .

10.

Tuition and scholarships

We offer several kinds of payment options such as an upfront payment with a 5% tuition reduction and an interest free payment plan—this option requires an upfront deposit to secure your place on the program, followed by eight monthly installments (resulting in payoff by graduation).

For more payment options for your specific region, check out the [payment options on our website](#) 📄. For further information on tuition or if you'd like to learn about what kind of scholarships we offer or if you require a more flexible payment plan, [contact your program advisor](#) 📄. We currently accept payments by credit card, Paypal, and bank transfer.

We offer you the chance to try out the program for a period of 14 days. This begins on the program start date. If, within that time frame, you decide that the program is not for you, we'll refund 100% of any tuition you've paid.

If the 14-day trial period has passed and you'd like to withdraw from the program before 60% of the program time has elapsed, you get a prorated refund based on remaining program time and your payment plan details. See the [full terms and conditions](#) 📄 on our website.

11.

Application and enrollment

We don't require you to go through any long-winded application process in order to participate in a CareerFoundry course or program. We know that our students can change careers successfully, regardless of their background.

If you'd like to make sure you're familiar with all of the details before signing up, [get in touch with us](#) 📄.

If you're ready to enroll, [complete your enrollment now](#). We can't wait to see you in the program! ➔