

# Data Science, Machine Learning, & Visualization

## Part-Time Online

16-20 weeks, 25 hours/week



**Part-Time**  
class commitment



**Career Focus**  
built into curriculum



**Learn by Doing**  
real projects, real datasets

Join the 13,000+ global alumni who kickstarted their career paths in tech.

# Program Overview

**Deep dive into the fundamentals** of Data Science, Visualization, and Machine Learning in Python over 16 or 20 weeks. As a graduate, you'll gain a comprehensive, end-to-end understanding of the entire data science process including data prep, data analysis and visualization as well as applying machine learning algorithms to real-life situations and tasks.

At the end of the course, you will walk away with a portfolio showcasing your data science acumen to show future employers within one of the fastest growing job sectors out there.

**Learn By Doing.** A practical, accelerated curriculum designed for you to fix real-world problems by building real Data Science projects and solutions.

**Hands-On Training.** Learn modern Data Science through hands-on assignments, projects, and mentorship from your instructor. Lectures are always live. TA hours are available 7 days a week.






















**Core Concepts, Real Data-Sets End-to-End, Extensive Curriculum.** In 16 or 20 weeks, you'll learn the principle concepts and technologies behind modern Data Science, and work on real data-sets and problems in different technologies to put your learning into practice.

**End-to-End, Extensive Curriculum.** We'll cover the full Data Science process and the technologies to do the job, from data prep with Python libraries, to data modeling in Scikit-Learn, to visualization and presentation.



# Technologies Covered

**We'll cover a wide range of technologies** throughout the program, see below for the breadth of technologies we'll cover over the course of 16 or 20 weeks in the part-time program.

	Python		Tableau
	Pandas		StatsModels
	NumPy		Shap
	Seaborn		Lime
	Scikit Learn		MySQL
	SciPy		MySQL Workbench
	Matplotlib		SQL Alchemy
	LightGBM		GitHub/GitHub Desktop
	Plotly Express		Keras
	XGBoost		Jupyter Notebooks
	TensorFlow		



# The Curriculum

## Python & Machine Learning

16 WEEK COURSE

### Pre-Bootcamp (Optional)

To get started, you have the option to take Coding Basics to learn the first steps of writing and understanding code.

Explore data types, conditionals, and loops.

#### What You'll Focus On:

- Python Basics
- Intro to Coding

### Pre-Bootcamp (Optional)

With this optional week you'll learn Python basics, and build a foundation for learning object oriented programming and functions in Python.

#### What You'll Focus On:

- Python Basics
- Object Oriented Programming

### Week One

You'll start on the foundations in Python, and will learn the Python fundamentals needed for data science.

#### What You'll Focus On:

- Data Science Fundamentals
- Python for Data Science

### Week Two

In week two you'll learn about manipulating and understanding data. You'll learn how to load, clean, and manipulate data using the Python library Pandas. Additionally, learn the strengths and weaknesses of using Python to manipulate data.

#### What You'll Focus On:

- Data Science Fundamentals
- Pandas for Data Manipulation

### Week Three

You'll get starting on learning Univariate and Multivariate Data Exploration, and will build visualizations to support exploratory data analysis (EDA).

#### What You'll Focus On:

- Data Science Fundamentals
- Exploratory Visualizations

### Week Four

In week four you'll learn about creating visualizations for reporting. You'll use Python to create high quality graphs to share with stakeholders and communicate key findings.

#### What You'll Focus On:

- Data Science Fundamentals
- Explanatory Visualizations

### Week Five

You'll be introduced to Machine Learning — what is machine learning and why use Scikit-Learn for Machine Learning? Topics include types of machine learning and preprocessing data for machine learning.

#### What You'll Focus On:

- Machine Learning
- Introduction to Machine Learning

### Week Six

In week six you'll learn about Linear regression, Decision Trees and Random Forests. You'll learn about machine learning algorithms, how to tune them to maximize their performance, and the strengths and weaknesses of each algorithm.

#### What You'll Focus On:

- Machine Learning
- Regression Models

### Week Seven

Week seven you'll learn about logistic regression, KNN, and tree models for classification. You'll learn about classification metrics, confusion matrices, and how to hypertune classification models.

#### What You'll Focus On:

- Machine Learning
- Classification Models

### Week Eight

In week 8 you will be introduced to gradient boosting algorithms and why they are so performant. You will explore LightGBM and XGBoost.

#### What You'll Focus On:

- Machine Learning
- Gradient Boosting Machines

### Week Nine

Week nine you'll begin using KMeans, Hierarchical Clustering, and DBSCAN. You'll learn about unsupervised learning and its applications. Learn about clustering algorithms, how to tune them, and the strengths and weaknesses of each.

#### What You'll Focus On:

- Advanced Machine Learning
- Clustering Algorithms

### Week Ten

You'll begin uses of dimensionality reduction. What is dimensionality reduction? Learn how to use it for data visualization, speed up machine learning algorithms. Explore Principal Component Analysis (PCA) and feature engineering techniques.

#### What You'll Focus On:

- Advanced Machine Learning
- Dimensionality Reduction

### Week Eleven

You'll begin Deep Learning Frameworks, and will learn about why deep learning has transformed industries, various deep learning frameworks, and when to use deep learning techniques. Topics include sequential artificial networks, and deep learning regularization.

#### What You'll Focus On:

- Advanced Machine Learning
- Introduction to Deep Learning

### Week Twelve

This week will be Using SQL with Python. You'll learn how to perform SQL queries, and will use SQLAlchemy and SQLite

#### What You'll Focus On:

- Advanced Machine Learning
- Introduction to SQL for Data Science

### Week Thirteen

You'll begin Databases Architecture, and will become familiar with entity relationship diagrams (ERD) and learn the advantages of using a relational database. Learn intermediate SQL queries to access and aggregate information.

#### What You'll Focus On:

- Data Enrichment
- Introduction to Databases

### Week Fourteen

This week will be Intro to ETL— an understanding of the process of extracting, develop transforming, and loading data.

#### What You'll Focus On:

- Data Enrichment
- Intro to ETL (Extract Transform Load)

### Week Fifteen

You'll begin Introduction to Statistics, and will learn tools for statistical analysis including measures of central tendency, variance and standard deviation and comparing means.

#### What You'll Focus On:

- Data Enrichment
- Statistical Analysis

### Week Sixteen

This week will be Model Assumptions. You'll explore model assumptions and how to test for them. Apply this knowledge to choose the appropriate model for a data set.

#### What You'll Focus On:

- Data Enrichment
- Model Assumptions



**Up Next:** The Twenty Week Curriculum

# The Curriculum

+ Data Science & Visualization

20 WEEK COURSE

**Add-on Data Science & Visualization to your program** with an additional four weeks, for a more complete curriculum.



## Week Seventeen

Week seventeen you'll learn to extract, visualize and interpret model importances, and apply model explanation tools to improve recommendations to stakeholders.

**What You'll Focus On:**

- Data Visualization
- Model interpretations and insights

## Week Eighteen

This week you'll identify, pre-process, and plot time series data with Python. You'll also explore rolling statistics, aggregation, and seasonal trends.

**What You'll Focus On:**

- Data Visualization
- Time Series Analysis

## Week Nineteen

With week nineteen, you'll learn to transform, explore, and analyze data in Tableau. You'll also create high quality visualizations in Tableau.

**What You'll Focus On:**

- Data Visualization
- Introduction to Tableau

## Week Twenty

The final week you'll create an interactive data dashboard in Tableau, and use Tableau for data storytelling.

**What You'll Focus On:**

- Data Visualization
- Dashboards in Tableau



**Up Next:** Career Services

# Career Services

**Lifetime career services support.** Our experienced Career Services team provides guidance, strategy, and prep to help you land a job whether it's post-graduation or later down the road in your search for senior roles.

## 1

### Professional Profile & Portfolio Building

From day one, gain access to your Career Services Manager who will begin to guide you into creating your digital footprint, learning skills companies seek, and building a profile that communicates those points to the right recruiters. Milestones:



LinkedIn profile creation and optimization



Github Portfolio Production



Resume Development & Curation

## 2

### Job Prospecting & Application Guidance

All while learning the most in-demand programs in tech, you'll be working on your job search for when graduation approaches. Your Career Service Manager will work with you on potential job titles to seek, understand different role descriptions, and guide you on what this first job post-bootcamp works toward your long-term career goals. Milestones:



Real Job Search



Sample Applications



Hiring Manager Communication



Job Title Refinement

## 3

### Interview Prep & Negotiation

One of the largest complaints by tech recruiters is it's easy to find people who can code and perform data analysis, but most of these people can't communicate or work in teams. Whether you're an introvert or a natural leader, our Career Services team will make sure you're equipped to show up as your best self in essential interviews and your day-to-day work. Milestones:



Mock Job Interviews



Technical Job Skills Tests



Target Compensation Management

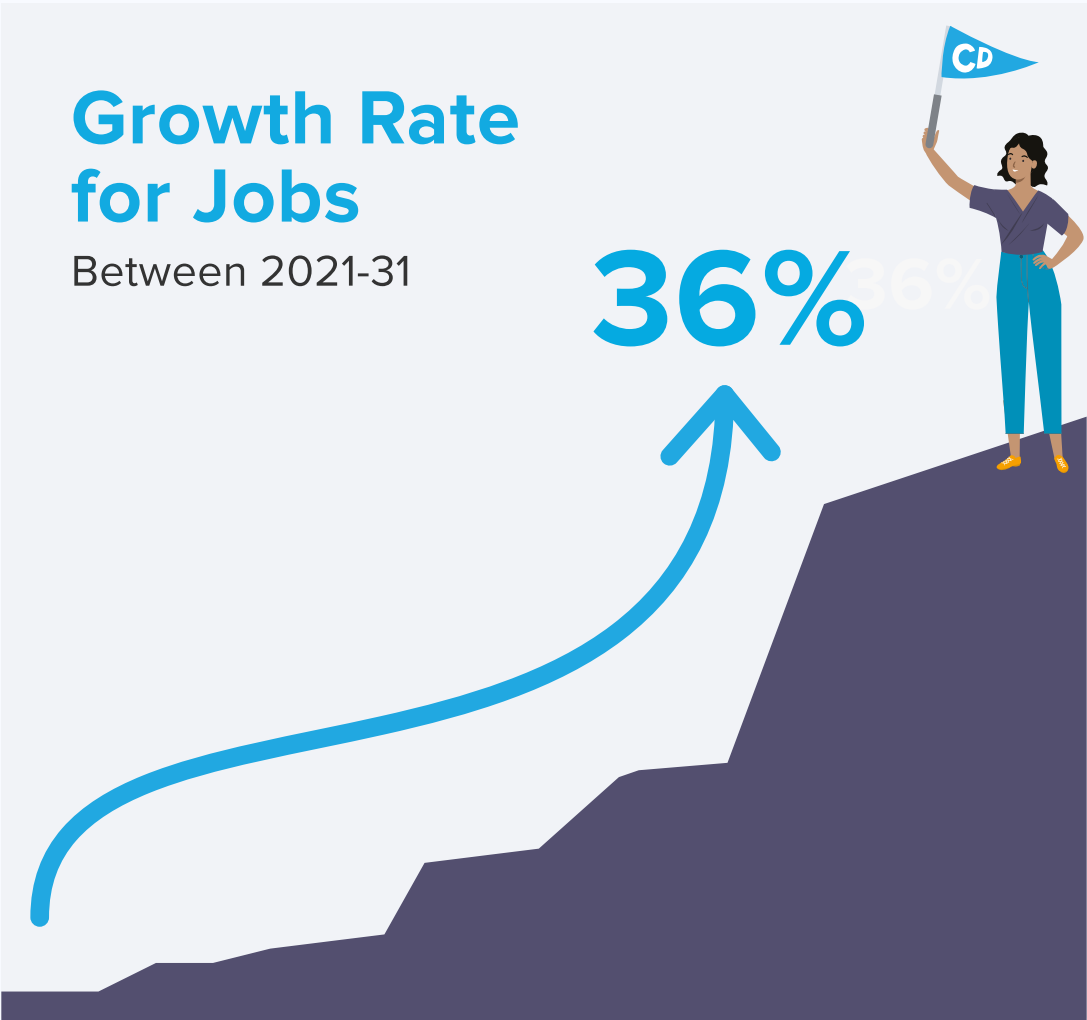


Contract Negotiation



**Up Next:** Industry Trends

# Industry Trends

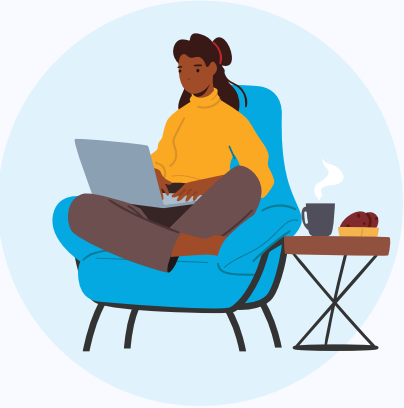


# How to Enroll



## Do Your Research

- Explore our programs on our website and view other program overviews.
- Schedule a call with one of our Admissions Advisors who will walk through your future career goals and what program would best suit you.
- Attend an Open House to meet directly with our Instruction and Career Service Managers.



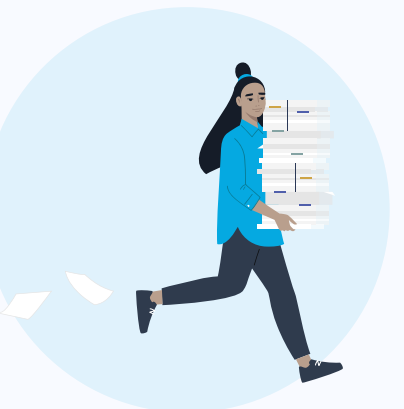
## Submit Application

- - Submit your application! The application process takes less than 5 minutes and has no technical assessment.
- Complete a quick 30-minute interview with our Admissions team.
- Receive your decision within 2-3 business days.



## Get Financing

- Our Admissions Advisors will help you find the best financing dependent on your financial situation and your goals.
- Coding Dojo offers a variety of payment options, financing partners, and partial-scholarships.



## Finalize Your Enrollment

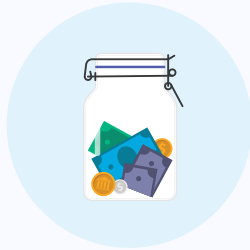
- Submit your deposit, confirm your financing, and sign your Enrollment Agreement to reserve your seat in class!
- Your Admissions Advisor will introduce you to your Student Experience Manager who will help you get everything sorted to start bootcamp.



**Up Next:** Financing Options



# Financing Options



## Installments

Spread tuition payments out over your course with customizable installment plans.



## Third Party Financing

Finance your bootcamp with a third party loan from a variety of vendors or source your own.



## Pay in Full

Pay your tuition in full and get started immediately.

Schedule a call with an Admissions Advisor to discuss which payment or financing option is right for you.

[Chat with Admissions](#)