Study Plan

| Unit 1: Program Overview with 6 units, 1 project, 15 hours 27 minutes | |
|---|------------|
| Sub-unit 1.1 Course Outline | 20 Minutes |
| The Data Science Method | |
| Specialization Tracks | 1 Hour |
| Capstone Projects | 4 Minutes |
| Your Data Science Portfolio | |
| Springboard's Job Guarantee | |
| Completion Criteria | 20 Minutes |
| Sub-unit 1.2 Mentorship | 20 Minutes |
| Mentorship | 3 Minutes |
| Mentor Calls | 10 Minutes |
| Questions to Ask Your Mentor | 7 Minutes |
| Unlimited Mentor Calls | |
| Sub-unit 1.3 Your Support System | 7 Minutes |
| Student Success Survey | |
| Career Support Walkthrough | 3 Minutes |
| Your Support System | 4 Minutes |
| Join Your Online Community | |
| Your Community Manager | |
| Course TA | |
| Your Extended Support Team | |
| Sub-unit 1.4 Your First Coaching Call | 35 Minutes |
| Your First Coaching Call | 5 Minutes |
| | |

| Career Strategy Worksheet | 30 Minutes |
|---|----------------------|
| Take a Quick Specialization Track Quiz OPTIONAL | 1 Minute |
| Sub-unit 1.5 Prework: Python | 14 Hours 5 Minutes |
| Create a DataCamp Account | 15 Minutes |
| Intro to Python for Data Science | 6 Hours |
| Intermediate Python for Data Science | 6 Hours |
| Install your Data Science Python Stack | 20 Minutes |
| Jupyter Notebook | 1 Hour |
| Git and GitHub | 30 Minutes |
| UNIX Command Line OPTIONAL | 30 Minutes |
| Sub-unit 1.6 Prework: Statistics | |
| Data Distributions OPTIONAL | 1.5 Hours |
| Displaying and Describing Quantitative Data OPTIONAL | 1.5 Hours |
| Scatterplots OPTIONAL | 1.5 Hours |
| Learning from Data OPTIONAL | 1.5 Hours |
| Total for this unit | ~15 Hours 27 Minutes |
| Unit 2: What is Data Science? with 3 units, 1 hour 17 minutes | |
| Sub-unit 2.1 Demystifying Data Science | 1 Hour 7 Minutes |
| What Do You Need to Become a Data Scientist | 15 Minutes |
| Data Science In 5 Minutes | 7 Minutes |
| What is Data Science? | 45 Minutes |
| Real Talk with a Data Scientist at Instagram OPTIONAL | 13 Minutes |
| Sub-unit 2.2 Data Science Method Overview | 10 Minutes |
| Overview of the Data Science Method | 10 Minutes |
| | |

| Sub-unit 2.3 Wrap Up | |
|---|---------------------|
| Recap OPTIONAL | |
| Total for this unit | ~1 Hour 17 Minutes |
| Unit 3: Problem Identification with 4 units, 2 projects, 6 hours 50 minutes | |
| Sub-unit 3.1 Intro to Problem Identification | 1 Hour 13 Minutes |
| The Data Science Method — Problem Identification | 10 Minutes |
| Why Care about Problem Statements? | 3 Minutes |
| Problem Solving Fundamentals | 30 Minutes |
| Building SMART Problem Statements to Define Problems | 20 Minutes |
| Problem Definition Techniques | 10 Minutes |
| Sub-unit 3.2 Case Study One - Monalco Mining | 3 Hours 10 Minutes |
| Problem Statement Worksheet Template | 10 Minutes |
| Problem Statement Worksheet Exemplar | 30 Minutes |
| Read the Monalco Mining Case Study Overview | 30 Minutes |
| Create a Problem Statement for Monalco Mining | 2 Hours |
| Sub-unit 3.3 Case Study Two - Nordic Sensing Co. | 2 Hours 20 Minutes |
| Read Nordic Sensing Co. Case Study Overview | 20 Minutes |
| Create a Problem Statement for Nordic Sensing Co. | 2 Hours |
| Sub-unit 3.4 Wrap Up | 7 Minutes |
| Problem Identification | 7 Minutes |
| Recap | |
| Total for this unit | ~6 Hours 50 Minutes |
| Unit 4: The Python Data Science Stack with 4 units, 2 projects, 36 hours 55 minutes | |
| Sub-unit 4.1 Python for Data Science | 11 Hours 20 Minutes |
| Data Types for Data Science | 6 Hours |

| Python Data Science Toolbox | 5 Hours |
|--|--------------------------------|
| Python Programming Assessment | 20 Minutes |
| Sub-unit 4.2 The Power of pandas | 18 Hours 20 Minutes |
| pandas Foundations | 6 Hours |
| Manipulating DataFrames with pandas | 6 Hours |
| Merging DataFrames with pandas | 6 Hours |
| Data Manipulation with Python Assessment | 20 Minutes |
| Sub-unit 4.3 Case Study - London Calling! | 7 Hours 15 Minutes |
| Self Reliance with StackOverflow | 15 Minutes |
| Case Study - London Housing | 6 Hours |
| Summarize Your Findings | 1 Hour |
| Sub-unit 4.4 Wrap Up | |
| Recap | |
| Total for this unit | ~36 Hours 55 Minutes |
| Unit 5: Creating Your Job Search Strategy with 2 units, 2 hours 45 minutes | |
| Sub-unit 5.1 Fundamentals of Effective Job Hunting | 2 Hours 45 Minutes |
| Anatomy of a Tech Company | 1.5 Hours |
| The Job Search Funnel | 10 Minutes |
| The Mindset of a Successful Job Seeker | 10 Minutes |
| Land Any Job You Want - How Successful People Thin | 45 Minutes |
| Land Any 300 Tou Want - How Successium eople min | |
| Common Mistakes that Job Seekers Make | 10 Minutes |
| | 10 Minutes |
| Common Mistakes that Job Seekers Make | 10 Minutes |
| Common Mistakes that Job Seekers Make Sub-unit 5.2 Wrap Up | 10 Minutes ~2 Hours 45 Minutes |

| Sub-unit 6.1 Step One: Problem Identification | 2 Hours |
|--|---------------------|
| Guided Capstone - Step One | 2 Hours |
| Sub-unit 6.2 Step Two: Data Wrangling | 8 Hours 26 Minutes |
| Overview of Data Wrangling | 10 Minutes |
| Data Wrangling with pandas Cheat Sheet | 4 Minutes |
| Github Essentials | 12 Minutes |
| Guided Capstone - Step Two | 8 Hours |
| Sub-unit 6.3 Step Three: Exploratory Data Analysis | 11 Hours 14 Minutes |
| Overview of Exploratory Data Analysis | 9 Minutes |
| EDA Cheat Sheet | 5 Minutes |
| Exploratory Data Analysis in Python | 3 Hours |
| Guided Capstone - Step Three | 8 Hours |
| Sub-unit 6.4 Step Four: Pre-processing and Training Data Development | 8 Hours 13 Minutes |
| Overview of Pre-processing and Training Data Develop | 8 Minutes |
| Overview of Scale Standardization | 5 Minutes |
| Guided Capstone - Step Four | 8 Hours |
| Sub-unit 6.5 Step Five: Modeling | 8 Hours 8 Minutes |
| Overview of Modeling | 8 Minutes |
| Guided Capstone - Step Five | 8 Hours |
| Sub-unit 6.6 Step Six: Documentation | 2 Hours 35 Minutes |
| Overview of Project Documentation | 8 Minutes |
| The Secret Structure of Great Talks | 27 Minutes |
| Guided Capstone - Step Six | 2 Hours |
| Sub-unit 6.7 Presenting Your Work | 2 Hours |
| Guided Capstone - Create a Slide Deck for the Executive Team | 2 Hours |

| Sub-unit 6.8 Wrap Up | |
|--|----------------------|
| Recap | |
| Total for this unit | ~42 Hours 36 Minutes |
| Unit 7: Data Wrangling with 7 units, 4 projects, 50 hours 55 minutes | |
| Sub-unit 7.1 Capstone Two: Project Ideas & Proposal | 8 Hours |
| Capstone Two - Project Ideas | 4 Hours |
| Capstone Two - Project Proposal | 4 Hours |
| Sub-unit 7.2 Data Collection | 12 Hours 50 Minutes |
| Importing Data in Python, Part 1 | 5 Hours |
| Importing Data in Python, Part 2 | 3 Hours |
| Introduction to APIs | 20 Minutes |
| Getting Started With Python Requests | 30 Minutes |
| API Mini-Project | 4 Hours |
| Web Scraping in Python Using Scrapy OPTIONAL | 1 Hour |
| Sub-unit 7.3 Data Organization | 6 Hours 20 Minutes |
| Cookie Cutter Data Science | 20 Minutes |
| Code Management with Git | 6 Hours |
| Sub-unit 7.4 Data Definitions | 2 Hours 45 Minutes |
| pandas Profiling Module Overivew | 45 Minutes |
| NASA Meteorite Data Exercise | 2 Hours |
| Sub-unit 7.5 Data Cleaning | 13 Hours |
| Cleaning Data in Python | 6 Hours |
| Python Data Science Toolbox, Part 2 | 6 Hours |
| Handling Text Data | 1 Hour |

| Sub-unit 7.6 Capstone Two: Data Wrangling | 8 Hours |
|--|----------------------|
| Capstone Two - Data Wrangling | 8 Hours |
| Sub-unit 7.7 Wrap up | |
| Data Cleaning Challenge OPTIONAL | 2 Hours |
| Recap | |
| Total for this unit | ~50 Hours 55 Minutes |
| Unit 8: SQL & Databases with 4 units, 1 project, 29 hours 17 minutes | |
| Sub-unit 8.1 SQL & Databases Overview | 2 Hours 13 Minutes |
| Introduction to SQL and Databases | 45 Minutes |
| Introduction to SQL and Databases | 20 Minutes |
| Introduction to Entity-Relationship Diagrams OPTIONAL | 4 Minutes |
| Database Trends | 30 Minutes |
| Introduction to Relational Databases | 8 Minutes |
| Set Theory: The Method to Database Madness | 30 Minutes |
| Sub-unit 8.2 SQL Skills for Data Science | 19 Hours |
| Introduction to SQL for Data Science | 6 Hours |
| Joining Data in SQL | 7 Hours |
| Intermediate SQL | 6 Hours |
| Sub-unit 8.3 SQL Case Study - Country Club | 7 Hours 34 Minutes |
| Working with Relational Databases in Python | 1.5 Hours |
| Introduction to PHP MyAdmin | 4 Minutes |
| Case Study - Country Club | 6 Hours |
| Sub-unit 8.4 Wrap Up | 30 Minutes |
| Interview Questions | 30 Minutes |
| HackerRank SQL Challenge OPTIONAL | 2 Hours |

Total for this unit ~29 Hours 17 Minutes

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| Unit 9: Your Elevator Pitch and LinkedIn Profile with 3 units, 2 projects, 7 hours 2 minutes Sub-unit 9.1 Elevator Pitch | 1 Hour 2 Minutes |
| The Perfect Elevator Pitch To Land A Job | 7 Minutes |
| 5 Minutes to a Great Elevator Pitch for Job Seekers | 10 Minutes |
| Create your Personal Pitch | 45 Minutes |
| Sub-unit 9.2 Create (or Update) Your LinkedIn Profile | 6 Hours |
| Get a LinkedIn Job Seeker Premium Account OPTIONAL | 30 Minutes |
| The 31 Best LinkedIn Profile Tips for Job Seekers | 20 Minutes |
| How to Write a LinkedIn Summary (About Section): Exa | 15 Minutes |
| Five Examples of Great LinkedIn Summaries | 20 Minutes |
| Update Your LinkedIn Profile | 5 Hours |
| Schedule an Elevator Pitch and LinkedIn Call with Your | 5 Minutes |
| Sub-unit 9.3 Wrap Up | |
| Recap | |
| Total for this unit | ~7 Hours 2 Minutes |
| Unit 10: Statistics for Exploratory Data Analysis with 7 units, 29 hours 55 minutes | |
| Sub-unit 10.1 Learning from Data | 6 Hours 20 Minutes |
| Accessing The Art of Statistics | |
| Chapter 3: Why Are We Looking at Data Anyway? | 2.5 Hours |
| Why are We Looking at Data | 15 Minutes |
| Chapter 3: Take-away Notes | 10 Minutes |
| Chapter 4: What Causes What? | 3 Hours |
| | |

| What Causes What? | 15 Minutes |
|--|--------------------|
| Chapter 4: Take-away Notes | 10 Minutes |
| Simpson's Paradox OPTIONAL | 20 Minutes |
| Sub-unit 10.2 Models & Algorithms | 6 Hours 20 Minutes |
| Chapter 5: Modelling Relationships Using Regression | 2 Hours |
| Seeing Theory - Regression Exercises | 30 Minutes |
| Modelling Relationships Using Regression | 15 Minutes |
| Chapter 5: Take-away Notes | 10 Minutes |
| Chapter 6: Algorithms, Analytics, and Prediction | 3 Hours |
| Algorithms, Analytics, and Prediction | 15 Minutes |
| Chapter 6: Take-away Notes | 10 Minutes |
| Sub-unit 10.3 Assessing Uncertainty through Resampling | 2 Hours 40 Minutes |
| Chapter 7: How Sure Can We Be About What Is Going | 2 Hours |
| Chapter 7: Take-away Notes | 10 Minutes |
| Seeing Theory: Frequentist Inference | 30 Minutes |
| Sub-unit 10.4 Probability Theory | 5 Hours 50 Minutes |
| Chapter 8: Probability - The Language of Uncertainty a | 2 Hours |
| Chapter 8: Take-away Notes | 10 Minutes |
| Seeing Theory: Basic Probability and Compound Proba | 30 Minutes |
| Chapter 9: Putting Probability & Statistics Together | 2.5 Hours |
| Chapter 9: Take-away Notes | 10 Minutes |
| Seeing Theory: Probability Distributions | 30 Minutes |
| Sub-unit 10.5 Hypothesis Testing | 2 Hours 55 Minutes |
| Chapter 10: Answering Questions & Claiming Discoveries | 2.5 Hours |
| Answering Questions & Claiming Discoveries | 15 Minutes |

| Chapter 10: Take-away Notes | 10 Minutes |
|--|---|
| Sub-unit 10.6 Advanced Statistics | 5 Hours 50 Minutes |
| Chapter 11: Learning from Experience the Bayesian Way | 2.5 Hours |
| Seeing Theory: Bayesian Inference | 30 Minutes |
| Chapter 11: Take-away Notes | 10 Minutes |
| Chapter 12: How Things Go Wrong & Chapter 13: How We C | 2.5 Hours |
| Chapters 12 and 13: Take-away Notes | 10 Minutes |
| Sign Up for LinkedIn Learning | |
| Sub-unit 10.7 Wrap Up | |
| Recap | |
| Total for this unit | ~29 Hours 55 Minutes |
| Unit 11: Python Statistics in EDA with 6 units, 5 projects, 38 hours | |
| Sub-unit 11.1 Statistical Inference in Python | 11 Hours |
| Statistical Thinking in Python, Part 1 | 4 Hours |
| | |
| Intro to Statistical Inference and Statistical Modelling in | 3 Hours |
| Intro to Statistical Inference and Statistical Modelling in Case Study - Frequentist Inference: A and B | |
| | 3 Hours |
| Case Study - Frequentist Inference: A and B | 3 Hours 4 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python | 3 Hours 4 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python Introduction to Data Visualization in Python | 3 Hours 4 Hours 4 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python Introduction to Data Visualization in Python Sub-unit 11.3 Hypothesis Testing in Python | 3 Hours 4 Hours 4 Hours 9 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python Introduction to Data Visualization in Python Sub-unit 11.3 Hypothesis Testing in Python Statistical Thinking in Python, Part 2 | 3 Hours 4 Hours 4 Hours 9 Hours 5 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python Introduction to Data Visualization in Python Sub-unit 11.3 Hypothesis Testing in Python Statistical Thinking in Python, Part 2 Case Study - Integrating Apps | 3 Hours 4 Hours 4 Hours 9 Hours 5 Hours |
| Case Study - Frequentist Inference: A and B Sub-unit 11.2 Data Visualization in Python Introduction to Data Visualization in Python Sub-unit 11.3 Hypothesis Testing in Python Statistical Thinking in Python, Part 2 Case Study - Integrating Apps Sub-unit 11.4 Statistical Modeling in Python | 3 Hours 4 Hours 4 Hours 9 Hours 5 Hours 4 Hours |

| Sub-unit 11.5 Capstone Two: EDA | 10 Hours |
|---|---------------------|
| Exploratory Data Analysis | 10 Hours |
| Sub-unit 11.6 Wrap Up | |
| HackerRank Statistics Challenge OPTIONAL | 2 Hours |
| Recap | |
| Total for this unit | ~38 Hours |
| Unit 12: Effective Networking with 4 units, 1 project, 4 hours 17 minutes | |
| Sub-unit 12.1 Relationship Building | 51 Minutes |
| Reach Out, Stay in Touch and Deepen Your Connections with This | 40 Minutes |
| 15 Power Tips for Using Your Social Network To Find A | 11 Minutes |
| Sub-unit 12.2 How to Use Meetups and Conferences to Build Your Network | 25 Minutes |
| How to Use Meetups to Build Your Network | 10 Minutes |
| The Best Data Science Conferences | 15 Minutes |
| Sub-unit 12.3 Emailing and Etiquette | 3 Hours 1 Minute |
| The Best Email Scripts for Cold Emailing | 10 Minutes |
| Best Scripts for Cold LinkedIn Outreach | 15 Minutes |
| Springboard's Networking Etiquette Guide | 15 Minutes |
| Imposter Syndrome 1 | 6 Minutes |
| Imposter Syndrome 2 | 10 Minutes |
| Attend a Data Science Meetup | 2 Hours |
| Schedule a Call about Networking with Your Career Co | 5 Minutes |
| Sub-unit 12.4 Wrap Up | |
| Recap | |
| | |
| Total for this unit | ~4 Hours 17 Minutes |

| Sub-unit 13.1 Introduction to Machine Learning | 2 Hours 28 Minutes |
|--|------------------------------------|
| What is Machine Learning? | 20 Minutes |
| ONS: Documentation on the Nature of Machine Learning OPTIONAL | 10 Minutes |
| Supervised Learning vs Unsupervised Learning | 10 Minutes |
| Batch Learning vs Online Learning | 6 Minutes |
| Online Learning | 12 Minutes |
| Instance-Based vs Model-Based Learning | 10 Minutes |
| Machine Learning 101 | 1.5 Hours |
| Sub-unit 13.2 Data Scientists and Machine Learning | 1 Hour 6 Minutes |
| Dealing with Lack of Data | 12 Minutes |
| Best Practices for Feature Engineering | 20 Minutes |
| Overfitting and Underfitting | 20 Minutes |
| The Rules of Machine Learning | 14 Minutes |
| Sub-unit 13.3 Wrap Up | 15 Minutes |
| Machine Learning Overview | 15 Minutes |
| Recap | |
| Total for this unit | ~3 Hours 49 Minutes |
| Unit 14: Supervised Learning with 8 units, 4 projects, 50 hours 43 minutes | |
| Sub-unit 14.1 Overview of Supervised Learning | 9.5 Hours |
| Choosing a Machine Learning Classifier | 10 Minutes |
| Supervised Learning with Scikit-Learn | 6 Hours |
| Could be to Original with Jack along and Data | 00.14 |
| Getting to Grips with Imbalanced Data | 20 Minutes |
| Classification, kNN, Cross-validation, Dimensionality R | 20 Minutes 1 Hour 15 Minutes |

| Classification, kNN, Cross-validation, Dimensionality R | 1 Hour 15 Minutes |
|--|----------------------|
| Classification, kNN, Cross-validation, Dimensionality Re | 15 Minutes |
| MIT Introduction to Machine Learning OPTIONAL | 2 Hours |
| Sub-unit 14.2 Logistic Regression | 10 Hours 35 Minutes |
| Bias and Regression, Part 1 | 1 Hour |
| Bias and Regression, Pt 1 | 15 Minutes |
| Bias and Regression, Part 2 | 30 Minutes |
| Bias and Regression, Pt 2 | 15 Minutes |
| Bias and Regression, Part 3 | 1 Hour |
| Bias and Regression, Pt 3 | 15 Minutes |
| Regression, Part 1 | 1 Hour 20 Minutes |
| Regression, Pt 1 | 15 Minutes |
| Regression, Part 2 | 1.5 Hours |
| Regression, Pt 2 | 15 Minutes |
| Case Study - Logistic Regression | 4 Hours |
| Sub-unit 14.3 Decision Trees | 8 Hours |
| Decision Trees, Part 1 | 1.5 Hours |
| Decision Trees, Pt 1 | 15 Minutes |
| Decision Trees, Part 2 | 2 Hours |
| Decision Trees, Pt 2 | 15 Minutes |
| Case Study - RR Diner Coffee | 4 Hours |
| Sub-unit 14.4 Ensemble Methods and Random Forest | 8 Hours |
| Using Random Forests in Python | 45 Minutes |
| Ensemble Methods | 3 Hours |

| Ensemble Methods Quiz | 15 Minutes |
|--|----------------------|
| Case Study - Random Forest | 4 Hours |
| Sub-unit 14.5 Ensemble Methods: Gradient Boosting and AdaBoost | 5 Hours 10 Minutes |
| Random Forest vs AdaBoost vs. Gradient Boosting | 20 Minutes |
| Gradient Boosting | 2 Hours |
| Extreme Gradient Boosting with XGBoost OPTIONAL | 4 Hours |
| Develop your first XGBoost model with Scikit Learn OPTIONAL | 15 Minutes |
| Gradient Boosting from Scratch | 50 Minutes |
| Case Study - Gradient Boosting | 2 Hours |
| Sub-unit 14.6 Time Series Analysis and Forecasting | 5 Hours 40 Minutes |
| Time Series Analysis | 1 Hour |
| Data Transformation for Forecasting | 30 Minutes |
| Seasonal Arima with Python | 10 Minutes |
| Introduction to Time Series Analysis in Python | 4 Hours |
| Sub-unit 14.7 SVM & Kernels | 3 Hours 48 Minutes |
| Overview of SVM | 30 Minutes |
| SVM and Evaluation | 3 Hours |
| SVM with Polynomial Kernel Visualization | 3 Minutes |
| Linear Discriminant Analysis | 15 Minutes |
| Sub-unit 14.8 Wrap Up | |
| HackerRank Supervised Learning challenges OPTIONAL | 2 Hours |
| Recap | |
| Total for this unit | ~50 Hours 43 Minutes |
| Unit 15: Unsupervised Learning with 8 units 3 projects 24 hours 45 minutes | |

| Sub-unit 15.1 Overview of Unsupervised Learning | 1 Hour 20 Minutes |
|---|--------------------|
| Clustering Harvard Lecture, Part 1 | 25 Minutes |
| Clustering, Pt 1 | 15 Minutes |
| An Introduction to Clustering Algorithms: Part 1 | 20 Minutes |
| A Tutorial on Clustering Algorithms, Part 1 | 20 Minutes |
| Sub-unit 15.2 Euclidean & Manhattan Distances | 2 Hours 15 Minutes |
| Euclidean & Manhattan Distances Explained | 15 Minutes |
| Case Study - Calculating Distances | 2 Hours |
| Sub-unit 15.3 k-means Clustering | 3 Hours 45 Minutes |
| Clustering Harvard Lecture, Part 2 | 25 Minutes |
| Clustering, Pt 2 | 15 Minutes |
| Unsupervised Learning in Python, Part 1 | 1.5 Hours |
| A Tutorial on Clustering Algorithms, Part 2 | 1 Hour |
| Clustering Harvard Lecture, Part 3 | 20 Minutes |
| Clustering, Pt 3 | 15 Minutes |
| Jake VanderPlas on k-means OPTIONAL | 1.5 Hours |
| Sub-unit 15.4 Agglomerative Hierarchical Clustering | 7 Hours 25 Minutes |
| Clustering Harvard Lecture, Part 4 | 40 Minutes |
| Clustering, Pt 4 | 15 Minutes |
| Unsupervised Learning in Python, Part 2 | 4 Hours |
| A Tutorial on Clustering Algorithms, Part 3 | 1.5 Hours |
| Different Clustering Methods, and When to Use Them | 1 Hour |
| Sub-unit 15.5 Cosine Similarity | 2 Hours 45 Minutes |
| Cosine Similarity - Understand the Math | 45 Minutes |
| P Case Study - Cosine Similarity | 2 Hours |

| Sub-unit 15.6 Principal Components Analysis | 7 Hours 15 Minutes |
|---|----------------------|
| A One-Stop Shop for Principal Components Analysis | 1.5 Hours |
| PCA Explained Visually | 45 Minutes |
| Case Study - Customer Segmentation using Clustering: K-means | 5 Hours |
| Sub-unit 15.7 Singular Value Decomposition | |
| Singular Value Decomposition (SVD) & Principal Component An OPTIONAL | 30 Minutes |
| How are Principal Component Analysis and Singular Value Decom OPTIONAL | 40 Minutes |
| Sub-unit 15.8 Wrap Up | |
| Bond Clustering Hackerrank challenge OPTIONAL | 2 Hours |
| Recap | |
| Total for this unit | ~24 Hours 45 Minutes |
| Unit 16: Feature Engineering with 4 units, 1 project, 15 hours 15 minutes | |
| Sub-unit 16.1 Categorical, Text, & Image Features | 4 Hours 45 Minutes |
| Handling Categorical Data for Machine Learning | 30 Minutes |
| Feature Engineering for Machine Learning in Python, P | 1.5 Hours |
| Text Mining in Python | 30 Minutes |
| Feature Engineering for Machine Learning in Python | 1.5 Hours |
| The Histogram of Gradients Method for Feature Engineer | 45 Minutes |
| Image Processing in Python OPTIONAL | 1.5 Hours |
| Sub-unit 16.2 Feature Engineering Implementation | 7.5 Hours |
| Feature Engineering for Machine Learning in Python, P | 3 Hours |
| Dealing with Missing Data in Python: Value Imputation OPTIONAL | 2 Hours |
| Deep Feature Synthesis: How Automated Feature Engi | 15 Minutes |
| | 1E Minutoo |
| Automated Feature Engineering | 15 Minutes |

| Automated Feature Engineering with Featuretools | 4 Hours |
|---|----------------------|
| Sub-unit 16.3 Capstone Two: Pre-processing & Training Data Development | 3 Hours |
| Capstone Two - Pre-processing and Training Data Development | 3 Hours |
| Sub-unit 16.4 Wrap Up | |
| Text Manipulation in Python OPTIONAL | 2 Hours |
| Recap | |
| Total for this unit | ~15 Hours 15 Minutes |
| Unit 17: Informational Interviews with 2 units, 1 project, 7 hours 12 minutes | |
| Sub-unit 17.1 Informational Interviews | 7 Hours 12 Minutes |
| Informational Interviewing with Steve Dalton | 15 Minutes |
| How to Be Awesome at Informational Interviews | 15 Minutes |
| Building Your Professional Relationships | 30 Minutes |
| 7 Questions You Can't Leave an Informational Interview | 7 Minutes |
| Conduct Informational Interviews | 6 Hours |
| Schedule a check-in call with your Career Coach | 5 Minutes |
| Sub-unit 17.2 Wrap Up | |
| Recap | |
| Total for this unit | ~7 Hours 12 Minutes |
| Unit 18: Machine Learning Applications with 4 units, 3 projects, 27 hours 3 minutes | |
| Sub-unit 18.1 Model Evaulation | 2 Hours 10 Minutes |
| Machine Learning Model Metrics | 50 Minutes |
| Regression Evaluation Metrics | 15 Minutes |
| Classification Evaluation Metrics | 15 Minutes |
| Machine Learning Model Metrics Quick Reference | 10 Minutes |
| Model Evaluation Metrics | 40 Minutes |

| Sub-unit 18.2 Model Optimization | 9 Hours 53 Minutes |
|--|---|
| Parameters Versus Hyperparameters | 15 Minutes |
| Hyperparameter Tuning | 1 Hour |
| Grid Search and Random Search | 8 Minutes |
| Grid Search in KNN | 4 Hours |
| Bayesian Optimization | 30 Minutes |
| Bayesian Optimization | 4 Hours |
| Sub-unit 18.3 Capstone Two: Modeling | 15 Hours |
| Capstone Two - Modeling | 15 Hours |
| Sub-unit 18.4 Wrap Up | |
| | |
| Recap | |
| | ~27 Hours 3 Minutes |
| Recap | ~27 Hours 3 Minutes |
| Recap Total for this unit | ~27 Hours 3 Minutes 6 Hours 10 Minutes |
| Recap Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes | |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles | 6 Hours 10 Minutes |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles | 6 Hours 10 Minutes 10 Minutes |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Find 2-3 Job Titles | 6 Hours 10 Minutes 10 Minutes 6 Hours |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Find 2-3 Job Titles Sub-unit 19.2 The Right Companies | 6 Hours 10 Minutes 10 Minutes 6 Hours 8 Hours 10 Minutes |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Find 2-3 Job Titles Sub-unit 19.2 The Right Companies How to Find the Right Companies | 6 Hours 10 Minutes 10 Minutes 6 Hours 8 Hours 10 Minutes 10 Minutes |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Find 2-3 Job Titles Sub-unit 19.2 The Right Companies How to Find the Right Companies Identify 40-50 Dream Companies | 6 Hours 10 Minutes 10 Minutes 6 Hours 8 Hours 10 Minutes 10 Minutes 8 Hours |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Find 2-3 Job Titles Sub-unit 19.2 The Right Companies How to Find the Right Companies Identify 40-50 Dream Companies Sub-unit 19.3 Choose Your Track | 6 Hours 10 Minutes 10 Minutes 6 Hours 8 Hours 10 Minutes 10 Minutes 8 Hours 4 Hours 22 Minutes |
| Total for this unit Unit 19: Find the Right Job Title and Companies with 4 units, 4 projects, 18 hours 42 minutes Sub-unit 19.1 The Right Job Titles How to Find the Right Job Titles Sub-unit 19.2 The Right Companies How to Find the Right Companies Identify 40-50 Dream Companies Sub-unit 19.3 Choose Your Track | 6 Hours 10 Minutes 10 Minutes 6 Hours 8 Hours 10 Minutes 10 Minutes 4 Hours 22 Minutes 7 Minutes |

| Sub-unit 19.4 Wrap Up | |
|--|----------------------|
| Recap | |
| Total for this unit | ~18 Hours 42 Minutes |
| Unit 20: Data Storytelling with 5 units, 3 projects, 36 hours 23 minutes | |
| Sub-unit 20.1 Data Storytelling 101 | 4 Hours 50 Minutes |
| Choose Your Track | |
| The History of Data Storytelling | 15 Minutes |
| Storytelling through Exploratory Data Analysis | 2 Hours |
| Show Me The Data! | 15 Minutes |
| Storytelling and Effective Communication | 2 Hours |
| The STAR Method | 20 Minutes |
| Storytelling and Effective Communication Exercise OPTIONAL | 2 Hours |
| Sub-unit 20.2 Presenting Your Work | 2 Hours 3 Minutes |
| Creating an Engaging Story | 1 Hour |
| Avoiding Death By PowerPoint | 30 Minutes |
| Three Types of Presentations: Executive, Technical, & | 10 Minutes |
| Presenting to an Executive | 8 Minutes |
| Presenting to Technical Audiences | 10 Minutes |
| Presenting to Non-technical Audiences | 5 Minutes |
| Sub-unit 20.3 Apply Your Storytelling Skills | 4.5 Hours |
| Choosing the Right Visualizations for Your Story | 30 Minutes |
| Craft a Story from a Dataset | 4 Hours |
| Sub-unit 20.4 Capstone Two: Documentation | 25 Hours |
| Capstone Two - Final Project Report | 15 Hours |
| Capstone Two - Final Presentation | 10 Hours |

| Sub-unit 20.5 Wrap Up | | |
|--------------------------|----------------------|----------------------|
| Recap | | |
| Total for this unit | | ~36 Hours 23 Minutes |
| Unit 21: Specializations | 188 hours 54 minutes | |
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