Table of Contents

[0. Setup 3](#_Toc92634598)

[1. Python 3](#_Toc92634599)

[1.1 Design Aphorisms 3](#_Toc92634600)

[1.2 Python Coding Conventions 3](#_Toc92634601)

[1.3 Object Oriented Programming 3](#_Toc92634602)

[1.4 Report Writing and Documentation 3](#_Toc92634603)

[1.5 Projects 4](#_Toc92634604)

[1.6 Exercises 4](#_Toc92634605)

[1.7 Visualize your Python code 4](#_Toc92634606)

[2. Data Analysis 4](#_Toc92634607)

[2.0 Loading Large Datasets using Dask 4](#_Toc92634608)

[2.1 Cloud Platforms for Large Data 4](#_Toc92634609)

[2.2 Microsoft Azure 5](#_Toc92634610)

[2.3 Initial Data Analysis (IDA) 5](#_Toc92634611)

[2.4 Exploratory Data Analysis (EDA) 5](#_Toc92634612)

[2.5 Data Wrangling/Preparation 5](#_Toc92634613)

[2.6 Valuable Data Science Tips/Books 5](#_Toc92634614)

[3. Machine Learning 6](#_Toc92634615)

[3.1 General 6](#_Toc92634616)

[3.2 Algorithms 6](#_Toc92634617)

[3.3 Metrics 6](#_Toc92634618)

[3.4 Others 6](#_Toc92634619)

[3.5 Projects 6](#_Toc92634620)

[4. Interview Questions 7](#_Toc92634621)

[4.1 Python 7](#_Toc92634622)

[4.2 Statistics 7](#_Toc92634623)

[4.3 SQL 7](#_Toc92634624)

[4.4 Machine Learning 7](#_Toc92634625)

[4.5 Case Study 7](#_Toc92634626)

[5. Other Learning Resources 8](#_Toc92634627)

[5.1 Microsoft (Python, OOP, Azure, ML) 8](#_Toc92634628)

[5.2 Data School (StackOverflow, GitHub, Pandas, scikit-learn) 8](#_Toc92634629)

[6. Courses 8](#_Toc92634630)

[6.1 MIT 8](#_Toc92634631)

[6.2 Coursera 8](#_Toc92634632)

**GitHub Repo: -** [rvs-23/DataScience\_Resources (github.com)](https://github.com/rvs-23/DataScience_Resources)

# Setup

[Conda for Python | Virtual Environment Tutorial (Anaconda & Miniconda) - YouTube](https://www.youtube.com/watch?v=7_W_aoIAeVE)

[Anaconda (Conda) for Python - What & Why? - YouTube](https://www.youtube.com/watch?v=23aQdrS58e0)

[How to Set Up Your Data Science Environment (Anaconda Beginner) - YouTube](https://www.youtube.com/watch?v=C4OPn58BLaU)

[Understanding Virtual Environments for Data Science / Data Analysis - P.4 - YouTube](https://www.youtube.com/watch?v=qI0uJsLweoM)

[Getting Started with PyCharm: Quick Tour - YouTube](https://www.youtube.com/watch?v=BPC-bGdBSM8&list=PLQ176FUIyIUZ1mwB-uImQE-gmkwzjNLjP&index=1)

[Python Data Science Tutorial #1 - Anaconda and PyCharm Setup - YouTube](https://www.youtube.com/watch?v=hVcEv7rEN24)

[Getting Started with PyCharm: Quick Tour - YouTube](https://www.youtube.com/watch?v=BPC-bGdBSM8&list=PLQ176FUIyIUZ1mwB-uImQE-gmkwzjNLjP&index=2)

# Python

## Design Aphorisms

[PEP 20 -- The Zen of Python | Python.org](https://www.python.org/dev/peps/pep-0020/)

## Python Coding Conventions

[PEP 8 -- Style Guide for Python Code | Python.org](https://www.python.org/dev/peps/pep-0008/)

[Applying PEP 8 [LWN.net]](https://lwn.net/SubscriberLink/868490/cf00c295c514cad0/)

## Object Oriented Programming

[Introduction to object-oriented programming with Python - Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/modules/python-object-oriented-programming/)

[Object-Oriented Programming (OOP) in Python 3 – Real Python](https://realpython.com/python3-object-oriented-programming/)

[What is Object Oriented Programming? OOP Explained in Depth (educative.io)](https://www.educative.io/blog/object-oriented-programming)

## Report Writing and Documentation

[Google Docs: Free Online Documents for Personal Use](https://www.google.com/docs/about/)

[Home - How to Write a Good Documentation - Library Guides at UC Berkeley](https://guides.lib.berkeley.edu/how-to-write-good-documentation)

[Process Documentation: Definition, Best Practices & How to Do It (helpjuice.com)](https://helpjuice.com/blog/process-documentation)

[Data Science Reports (udacity.com)](https://career-resource-center.udacity.com/portfolio/data-science-reports)

## Projects

[The Big Book of Small Python Projects (inventwithpython.com)](https://inventwithpython.com/bigbookpython/)

## Exercises

[About - Project Euler](https://projecteuler.net/)

[The Python Challenge](http://www.pythonchallenge.com/)

## Visualize your Python code

[Python Tutor - Visualize Python, Java, C, C++, JavaScript, TypeScript, and Ruby code execution](https://pythontutor.com/)

# Data Analysis

## 2.0 Loading Large Datasets using Dask

[Optimized ways to Read Large CSVs in Python | by Shachi Kaul | Analytics Vidhya | Medium](https://medium.com/analytics-vidhya/optimized-ways-to-read-large-csvs-in-python-ab2b36a7914e)

[Why and How to Use Dask with Big Data - KDnuggets](https://www.kdnuggets.com/2020/04/dask-big-data.html)

[DASK | Handling Big Datasets For Machine Learning Using Dask (analyticsvidhya.com)](https://www.analyticsvidhya.com/blog/2018/08/dask-big-datasets-machine_learning-python/)

[Pandas with Dask, For an Ultra-Fast Notebook | by Kunal Dhariwal | Towards Data Science](https://towardsdatascience.com/pandas-with-dask-for-an-ultra-fast-notebook-e2621c3769f)

## Cloud Platforms for Large Data

[The Cheapest Cloud Platform For A Data Scientist In The Market (analyticsindiamag.com)](https://analyticsindiamag.com/the-cheapest-cloud-platform-for-a-data-scientist/)

[Create Your Azure Free Account Today | Microsoft Azure](https://azure.microsoft.com/en-in/free/)

Azure for Students – Free Account Credit | Microsoft

## Microsoft Azure

[Quickstart: Create workspace resources - Azure Machine Learning | Microsoft Docs](https://docs.microsoft.com/en-us/azure/machine-learning/quickstart-create-resources)

## Initial Data Analysis (IDA)

[Initial & Exploratory Analysis Method - Articles (etav.github.io)](https://etav.github.io/articles/ida_eda_method.html)

[A Basic Guide to Initial and Exploratory Data Analysis | by Kovid Rathee | Towards Data Science](https://towardsdatascience.com/a-basic-guide-to-initial-and-exploratory-data-analysis-6d2577dfc242)

[Data analysis - Wikipedia](https://en.wikipedia.org/wiki/Data_analysis#Initial_data_analysis)

## Exploratory Data Analysis (EDA)

[Data Analysis with Pandas (datascience.foundation)](https://datascience.foundation/sciencewhitepaper/data-analysis-with-pandas)

[Best Libraries That Will Assist You In EDA: 2021 Edition | Hacker Noon](https://hackernoon.com/best-libraries-that-will-assist-you-in-eda-2021-edition-2l1734hl)

[Exploratory Data Analysis: Baby Steps – Towards AI — The Best of Tech, Science, and Engineering](https://towardsai.net/p/data-analysis/exploratory-data-analysis-in-python-ebdf643a33f6)

[Exploratory Data Analysis (EDA) with Python & Matplotlib | by Bedouin | Artificial Intelligence in Plain English](https://ai.plainenglish.io/exploratory-data-analysis-eda-with-python-matplotlib-bb784e1d3dd3)

## Data Wrangling/Preparation

[Essential commands for data preparation with Pandas | by Mahbubul Alam | Towards Data Science](https://towardsdatascience.com/essential-commands-for-data-preparation-with-pandas-ed01579cf214)

[Data Preparation for Machine Learning Using Python (explorium.ai)](https://www.explorium.ai/blog/top-tips-for-data-preparation-using-python/)

[Pythonic Data Cleaning With Pandas and NumPy – Real Python](https://realpython.com/python-data-cleaning-numpy-pandas/)

[Data Preparation (devopedia.org)](https://devopedia.org/data-preparation)

## Valuable Data Science Tips/Books

[Data Science Simplified - Data Science (mathdatasimplified.com)](https://mathdatasimplified.com/)

[awesome-Python-data-science-books | Probably the best curated list of data science books in Python (khuyentran1401.github.io)](https://khuyentran1401.github.io/awesome-Python-data-science-books/)

# Machine Learning

## General

[What is Machine Learning? | Oracle India](https://www.oracle.com/in/data-science/machine-learning/what-is-machine-learning/)

[Machine Learning - an overview | ScienceDirect Topics](https://www.sciencedirect.com/topics/computer-science/machine-learning)

[Classifier comparison — scikit-learn 0.24.2 documentation](https://scikit-learn.org/stable/auto_examples/classification/plot_classifier_comparison.html)

## Algorithms

## Metrics

## Others

## Projects

[CS 229: Machine Learning Final Projects, Autumn 2014 (stanford.edu)](http://cs229.stanford.edu/projects2014.html)

# Interview Questions

## Python

[Python - The Data Monk](https://thedatamonk.com/python-questions-for-data-science-interviews/)

## Statistics

[Statistics - The Data Monk](https://thedatamonk.com/statistics-data-science-interview-questions-%ef%bb%bf/)

## SQL

[SQL - The Data Monk](https://thedatamonk.com/sql-interview-questions-for-analyst/)

## Machine Learning

[Machine Learning - The Data Monk](https://thedatamonk.com/most-asked-machine-learning-questions/)

## Case Study

[Case Study - The Data Monk](https://thedatamonk.com/case-study-for-data-science-interviews/)

# Other Learning Resources

## Microsoft (Python, OOP, Azure, ML)

[Microsoft Learn | Microsoft Docs](https://docs.microsoft.com/en-us/learn/)

## Data School (StackOverflow, GitHub, Pandas, scikit-learn)

[Data School](https://www.dataschool.io/)

# Courses

## MIT

[Introduction to Computer Science with Python](https://www.youtube.com/watch?v=nykOeWgQcHM&list=PLUl4u3cNGP63WbdFxL8giv4yhgdMGaZNA)

[Introduction to Computational Thinking in Data Science](https://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-0002-introduction-to-computational-thinking-and-data-science-fall-2016/lecture-videos/)

## Coursera