


# Data Science Roadmap for Beginners

This roadmap features a collection of complimentary learning resources tailored for both technical (tool skills) and soft (core) skills, ensuring an accessible and diverse learning experience.

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Coding

Python

Learning Resources:

Google's Python Class: <https://developers.google.com/edu/python>

Kaggle's Python Course: <https://www.kaggle.com/learn/python>

Codebasic's Python Tutorials: <https://bit.ly/3X6CCC7>

Numpy

Learning Resources:

Numpy Tutorials: <https://bit.ly/3GTppa8>

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EDA

Pandas

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### Learning Resources:

**Pandas Tutorials:** <https://bit.ly/3vPJWpX>

**Exploratory Data Analysis Pandas** <https://www.coursera.org/learn/ibm-exploratory-data-analysis-for-machine-learning>

**Exploratory Data Analysis for Machine Learning:**

<https://www.coursera.org/learn/ibm-exploratory-data-analysis-for-machine-learning>

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**Matplotlib**

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### Learning Resources:

**Matplotlib Tutorials:** <https://bit.ly/3k55egu>

**Data Visualization with Python:** <https://www.coursera.org/learn/python-for-data-visualization>

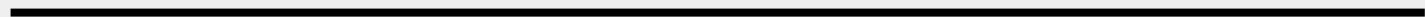
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**Seaborn**

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**Exploratory Data Analysis with Seaborn:**

<https://www.coursera.org/projects/exploratory-data-analysis-seaborn>



**Mathematics**

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**Linear Algebra**

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### Learning Resources:

**Linear Algebra for Machine Learning and Data Science:**

<https://www.coursera.org/learn/linear-algebra-machine-learning>

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**Calculus**

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### Learning Resources:

**Multivariate Calculus for Machine Learning and Data Science:**

<https://www.coursera.org/learn/multivariate-calculus-machine-learning>

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## Probability & Statistics



### Learning Resources:

**Probability and Statistics for Machine Learning and Data Science:**

<https://www.coursera.org/learn/machine-learning-probability-and-statistics>

**Tutorials:** <https://www.khanacademy.org/math/statistics-probability>

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## Machine Learning



### Learning Resources:

**Machine Learning Specialization:**

<https://www.coursera.org/specializations/machine-learning-introduction>

**IBM Machine Learning Specialization:**

<https://www.coursera.org/specializations/machine-learning-introduction>

**Tutorials :** <https://bit.ly/3io5qqX>

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## Data Manipulation



### Learning Resources:

**SQL Tutorials:** <https://sqltutorial.org/>

**Khan Academy:** <https://www.khanacademy.org/computing/computer-programming/sql>

**W3School Tutorials:** <https://www.w3schools.com/sql/>

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## Data Visualization



## Power BI



### Learning Resources:

**Projects:** <https://bit.ly/3C1WKgA>

**Microsoft Power BI:** <https://www.coursera.org/professional-certificates/microsoft-power-bi-data-analyst>

Tableau

Learning Resources:

**Data Visualization with Tableau:** <https://www.coursera.org/specializations/data-visualization>

**Projects:** <http://bit.ly/3YQSBFV>

Deep Learning

Learning Resources:

**Deep Learning Specialization:** <https://www.coursera.org/specializations/deep-learning>

**IBM AI Engineering:** <https://www.coursera.org/professional-certificates/ai-engineer>

**Deep Learning Tutorials:** <https://bit.ly/3vOZ3zV>

**Project:** <https://bit.ly/3QzkVJi>

Advanced Topics

MLOps

Learning Resources:

**Machine Learning Engineering for Production (MLOps) Specialization:**  
<https://www.coursera.org/specializations/machine-learning-engineering-for-production-mlops>

ML Cloud Platforms

Azure

AWS

Google Cloud

Natural Language  
Processing

Computer Vision

Keep Learning