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Outline : Basic Python (Zero to ML)

Course prescription

This introduction to Python will kickstart your learning of Python for data science, as well as programming in general. This beginner-friendly Python course will take you from zero to programming in Python in a matter of hours.

Goals of the course

Learn how to analyze data using Python. This course will take you from the basics of Python to exploring many different types of data. You will learn how to prepare data for analysis, perform simple statistical analyses, create meaningful data visualizations, predict future trends from data, and more!

What you will learn

- Understand Python language basics and apply to data science
- Practice iterative data science using Jupyter notebooks
- Analyze data using Python libraries like pandas and numpy
- Create graphical data visualizations with matplotlib, and seaborn

Build machine learning models using scipy and scikitlearn

Outline for study 😈😈

Soft landing and a basic notion of computation (Boring useful stuff 😳)
• Getting started with python
  ○ Installing Python3
  ○ Installing Anaconda
  ○ Running python programs
  ○ Basic computation
  ○ GIT and versioning
1week.

The Python programming language (The cool guy 😎) ○ Keyword, Statement, Comment, Operators, Operator Precedence, Data Types, Strings, Numbers, List, Arrays, Set, Tuple, Dictionary, Python Format, Python f-String, Python

Namespace, Python for Loop, Python Range, Python While Loop, Python If Else,

- Python Data Structures
  - Lists and Tuples
  - Dictionaries
- Python Functions, Lambda and usefulness.
- Importing modules
- Python Class
  - Python Inheritance
  - Python Multiple Inheritance
  - Etc.
- File Handling in Python
  - How to read and write files
  - How to read and write CSV files
- Python Try Except

4weeks

Data analysis with python modules (Beauty in the beholder's eye)

- Numpy
  - N-dimensional arrays
  - Basic image pixel manipulation
  - Array based arithmetics
  - etc
- Pandas
  - DataFrames and series
  - Working with files CSV, EXCEL
  - Visualizing data as tables
  - Built-in statistics (Pearson's correlation coefficient, standard deviation, etc.)
  - Grouping, filling missing values etc.
- Matplotlib
  - Plotting data in python
  - Pie, donut, bar, histograms, stacked bar charts etc.

3weeks

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A shallow splash into machine learning algorithms (ha-ha!!)

- A few machine learning algorithms
  - Linear regression
  - K-nearest neighbours
  - Support vector machines
- Building models with sci-kit learn.

1week

End for study 😁😁

Congrats in advance to those who make to the end of this course my future self is certainly ecstatic.!!!