**Artificial Intelligence and Machine Learning:**

+ One of the aspects that makes [Python such a popular choice in general](https://www.netguru.co/blog/why-python-is-growing-so-quickly-future-trends), is its abundance of libraries and frameworks that facilitate coding and save development time. Machine learning and deep learning are exceptionally well catered for.

+ Python is renowned for its concise, readable code, and is almost unrivaled when it comes to ease of use and simplicity, particularly for new developers. This has several advantages for [machine learning](https://www.netguru.co/services/machine-learning) and deep learning.

Both ML and DL rely on extremely complex algorithms and multi-stage workflows, so the less a developer has to worry about the intricacies of coding, the more they can focus on finding solutions to problems, and achieving the goals of the project.

Python’s simple syntax means that it is also faster in development than many programming languages, and allows the developer to quickly test algorithms without having to implement them.

In addition, easily readable code is invaluable for collaborative coding, or when machine learning or deep learning projects change hands between development teams. This is particularly true if a project contains a great deal of custom business logic or third party components.

+ Python is an open-source programming language and is supported by a lot of resources and high-quality documentation. It also boasts a large and active community of developers willing to provide advice and assistance through all stages of the development process

**Data Science and Big Data:**

+ Python programming is easy to use and has a simple and fast learning curve. New data scientists can easily understand Python with its easy to use syntax and better readability. Python also provides plenty of data mining tools that help in better handling the data. Python is important for data scientists because it provides a vast variety of applications used in data science. It also provides more flexibility in the field of machine learning and deep learning.

+ Python is a flexible programming language that gives the facility to solve any given problem in less time. Python can help the data scientists in developing machine learning models, web services, data mining, classification etc. It enables programmers to solve the problems end to end. Data science service providers are making exhaustive use of Python programming language in their processes.

+ Data analytics is an integral part of data science. Data analytics tools provide the information about various matrices that are necessary to evaluate the performance in any business. Python programming language is a better choice for building data analytics tools. Python can easily provide better insight, understand patterns and correlate data from big datasets. Python is also important in self-service analytics. Python has also helped the [data mining companies](https://www.webtunix.com/blog/how-to-improve-business-analytics-using-data-visualization-techniques) to better handle the data on their behalf.

+ Python has got a lot of packages like Tensorflow, Keras, and Theano that is helping data scientists to develop deep learning algorithms. Python provides a better support when it comes to deep learning algorithms. Deep learning algorithms are based on the human brain neural networks. It deals with building artificial neural networks that simulate the behavior of the human brain. Deep learning neural networks provide weight and biasing to various input parameters and provide the desired output.

+ Python has a huge community base of developers and data scientists. Python developers can share their problems and thoughts with the community. Python Package index is the great place to explore the various horizons of Python Programming language. Python developers are constantly making improvements in the language that is helping it to become better over the time.

**Automation, Automate tasks, scripting**

+ Python is most preferred programming language for test Automation. because python is easier to learn,scripted,good support and open source.Also there are lots of tools and modules to make the things more easier.

+It has many great software testing supports and tools available in it which helps a software tester to complete his work in no time and in much easier way. So if you have a dream to up-skill yourself to Automation professional and still struggling with long codes and traditional programming languages then its time to change your path. Try learning the basic python and in no time you can reach to the advance level. It is a recommended and mostly used language for testing purpose. Software testing is tedious task and python is the booster for it so every tester should go for it.

**References:**

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