

# Python: The programming language scope in future

Ravita Prajapati<sup>1</sup>, Anirudh Agrahari<sup>2</sup>, Abhishek Shahi<sup>3</sup>

<sup>1,2</sup>B.Tech Student, Department of Computer Science and Engineering, Buddha Institute of Technology  
GIDA Gorakhpur, Uttar Pradesh, India

<sup>3</sup>Asst. Professor, Department of Computer Science and Engineering, Buddha Institute of Technology  
GIDA Gorakhpur, Uttar Pradesh, India

**Abstract** - Python is a high-level programming language which is designed by Guido van Rossum, a Dutch programmer. Generally, “python programming language is widely used for web development, application development, system administration, developing games etc.”

But did you know that there are some future technologies that rely on python? In fact, Python has become the dominant language as far as the success of these technologies is concerned. Let’s dive into the technologies that use python as a core element for research, production and further developments.

- Artificial Intelligence (AI)
- Big Data
- Networking

The future scope of python programming language also depends on its competitors in the IT market. But, due to the fact that it has become a core language for future technologies such as artificial intelligence, big data, etc., it will surely rise further and will be able to beat its competitors.

- Tiobe Index
- PYPL Index
- Datanyze

The top three competitors of Python in India are listed below along with their market shares and current websites.

1. ASP.NET  
Market Share- 39.53%  
Current Websites- 41,052.
2. Java  
Market Share- 4.03%  
Current Websites- 4,186.
3. C#  
Market Share- 1.97%  
Current Websites- 2,042.

## INTRODUCTION

There are some popular websites which are developed in Python-

- Youtube
- Quora
- Instagram
- Pinterest
- Spotify
- Flipkart
- Slack
- Uber
- Cloudera
- Zenefits

There are also many small and big organizations and startups that are mentioned early on using Python to improve their productivity and meet requirements of the customers.

Even the governmental organizations are using python to maintain their website and add more functionality. USA’s CIA (Central Intelligence Agency) is one of them.

We have talked about some of the largest organizations in the world that are continuously deploying Python, and the in depth development framework to deal with the field productions it receives.

(1) NASA-

It is a massive workflow automation system and application written in python and developed by NASA’s shuttle support contractor USA (United Space Alliance).

NASA also uses Python for its various open source projects such as APOD (Astronomy Picture of the Day) API, PyTransit, PyMDP Toolbox, EVEREST etc.

(2) Google-

It uses python for its internal systems and API’s and for writing reports generation, log analysis, A/Q and testing, writing core search algorithms, just to name a few.

Youtube which is subsidiary of Google, Inc also uses python to watch videos, access canonical data, control website templates, etc.

### 3) Walt Disney Feature Animation

Walt Disney Feature Animation uses python as a scripting language for most of its animation flavor and related production.

### (4) AlphaGene, Inc.

AlphaGene is a biotechnology company based in the United States which deals with the discovery of genes and proteins. It uses python for its bioinformatics and tracking system.

### (5) Red Hat

It is a multinational computer software company. Which is based in the United States. It uses an installer, Anaconda, written in python for installing RHEL(Red Hat Enterprise Linux) and Fedora operating systems.

### (6) Nokia

Well, you all are already familiar with this popular seller of mobile phones in the world. It is a Finnish IT, consumer electronics, and telecommunication industry in origin.

### (7) IBM

IBM is an American-based multinational computer manufacturing company. It is using python for factory tool control applications at its micro semiconductor plant in East Fishkill. These tools are used to handle data collection, material entry etc.

Latest Articles about Python -Python is a general-purpose language sometimes called utilitarian that is designed to be simple to read and write. The point is that it's not a complex language It is important that designers placed less of an emphasis on traditional syntax, which makes it easier to work with than any other non-programmers or developers.

Also because it is supposed to be truly universal and you meet different development needs. It is a language that provides a lot of option to programmer in general. If they start working with Python for one job or career, they can easily jump into another, even if it's in an unrelated industry. The language is used for system operations, web development, server and administrative tools, deployment, scientific modeling and much more.

But, surprisingly, many developers do not take Python as their primary language. Because it is so easy to use and learn that they choose it as a second or third language. This may be another reason why it is so popular among developers.

At the same time it so happened that one of the world. Google used the language for many of their applications.

In addition, the increase in the popularity of the PHP using the Django framework for web development and design has also contributed to the success of Python, but ultimately, it is the perfect storm, with the right amount of developer and official support when I demand it. It occurs.

There are some of the less obvious reasons why Python has become super popular in recent years:

1. Python has a healthy, active and excellent community

For obvious reasons, programming languages that lack documentation and developer support just don't fare well. Python has neither of those problems. It's been around for quite some time, there is a lot of documentation, guides, tutorials and more and the developer community is incredibly active. This means that any time someone needs help or support, they can get it at the time.

And, as any experienced programmer or developer knows, support can make or break you when you run into development issues in times of crisis.

2. It helps a lot when a programming language has a corporate sponsor. C# has Microsoft, Java has Sun and PHP is used by Facebook. Google adopted Python heavily back in 2006, and they have used it for many platforms and applications since then.

It contributes to a growing list of documentation and support and provides free advertising for the language, at least in the development world

3. The use of big data and cloud computing solutions in the enterprise world has also helped make skyrocket Python a success. It is one of the most popular languages used in data science, second only to R. It is also being used for machine learning and AI systems and various modern technologies.

4. Python has amazing libraries

When you are working on big project, libraries can really help you save time and cut down on the initial development cycle. Python has an excellent selection of libraries, from NumPy and SciPy for scientific computing to Django for web development.

There are even some libraries that have more specific focus, like scikit-learn for machine learning applications and nltk for natural language processing.

5. You can work with and deploy Python applications in almost any environment, and there is no performance loss no matter what you work with.

Again, because it's versatile, this also means that you can work multiple domains, including, but not limited to — web development, desktop applications, mobile applications, hardware and more.

We are not bound by any one platform or domain, and it provides the same experience everywhere.

6. For beginners, Python is incredibly easy to learn and use. In fact, it is the most accessible programming languages. Part of the reason is the simplified syntax with an emphasis on natural language. But it's also because you can write Python code and execute it very quickly.

Whatever the case is a great language for beginners, so this is where a lot of young developers are getting start. More importantly, experienced developers do not stay by the wayside and they have a lot to do.

Future of Python-Python is a general-purpose language — which is designed to be easy to read and write.

The point is that it is not a complex language is important that the designers placed less emphasis on traditional syntax, which made it easier to work with, even with non-programmers or developers.

Python rises in computer science, machine learning, software development, and data analysis.

Its versatility is just one of the reasons for its widespread use. It excels in the enterprise, as an amateur language, and in the classroom.

58% of respondents said that they use the language both at home and for work.

The most common Python usage is for data science with 59% of respondents. Web development (51%) and machine learning (40%) follow.

Result-CodinGame 2020 developer survey says Python is the most loved programming language. Which programming languages do developers love most—and which do they dread? CodinGame has the answers, as the company surveyed more than 21,000 developers.

The Python Software Foundation and JetBrains has conducted the official third overall Python Developers Survey. Just like in the previous survey, we set out to identify the latest trends and gather insight into what the world of Python development looks like in 2020. Insights as 24K Python developers from over 150

different countries help us get a picture of the Python community.

## CONCLUSION

Python is a high level and programming language designed by Guido van Rossum, a Dutch programmer, having all the features as conventional programming languages such as C, C++ and Java have.

It is one of the fastest growing languages and Edge has gone through a successful period of 25 years adopting it in every concern. This success is so diverse that a promising future is the scope of python programming language.

In fact, it is continuously serving as the best programming language for application development, web development, game development, system administration, scientific and numeric computing.

Future Technologies Counting On Python-Generally, we saw that python programming language is widely used for web development, application development, system administration, developing games etc.

But did you know there are some future technologies that are relying on python? In fact, Python has become concerned with these technologies, so let's dive into the technologies that use python as a core element for research, production and further developments.

### (1) Artificial Intelligence (AI)

Certainly the python programming language is dominating other languages when futuristic technologies like Artificial Intelligence (AI) comes into the play.

Libraries and tools specifically developed to guide Artificial Intelligence to reduce human efforts with increased accuracy and efficiency for various development purposes.

It is only the Artificial Intelligence that has made it possible to develop its won speech recognition system, autonomous cars, interpreting data like There are a lot of python frameworks, images, videos etc.

There are below some of the python libraries and tools used in various Artificial Intelligence branches.

- Machine Learning- PyML, PyBrain, scikit-learn, MDP Toolkit, GraphLab Create, MIPy etc.
- General AI- pyDatalog, AIMA, EasyAI, SimpleAI etc.
- Neural Networks- PyAnn, pyrenn, ffnet, neurolab etc.

- Natural Language & Text Processing- Quepy, NLTK, gensim

### (2) Big Data

The future is good about python programming language. It can also be predicted by the way it has helped big data technology to grow. Python has successfully contributed to the analysis of a large number of data sets across computer clusters through its high-performance toolkits and libraries.

### (3) Networking

Networking is another area in which python has a bright scope in the future. Python programming language is used to read and write and configure routers and switches and perform other networking automation tasks in a cost-effective and secure manner.