



## Expert Session on Python Programming



Organised by

**GTU & Association with VODAFONE (Bombay)**

**From: 02nd to 5th December 2019**

**Date:** 02nd to 5th December 2019

**Timings:** - From morning 10:30 AM to 6:00 PM every day.

**Venue:** IIT Shad 4, Room No: 107 Seminar Hall, Gujarat Technological University, Chandkheda, Ahmedabad – 382424 – Gujarat

**Technical Experts:** Abhishek Sir & MANJIT Ma'm

**Participants:** Total 40 participants– (Students of the Cyber Security and Mobile communication & Network Technology)

### **AIM OF THE SESSION:**

- To introduce the basic concept of Python Programming
- Overview of OOP (Classes & Object in python) Terminology in Python
- To help participants to understand Basics of Python Programming and its Connection with AI and develop basic understanding about Deep learning & Machine Learning
- To bring awareness about advance & intelligence features consisting within python and to give ideas and techniques that can be applied in various fields so as to bring awareness amongst the participants and also to get motivation for doing research based on the topic

### **DAY 01 (02<sup>nd</sup> December 2019):**

- Interaction of Python language with the physical world
- Getting familiar with Basic Python Programming
- Basics & Installations
- Getting started with Anaconda (one of most used PYTHON IDE)

After a quick introduction of themselves, both the experts started Session. They introduced us about vast features and usages of Python in nowadays technical Markets. Moving on, they covered up almost all of basic terminologies and structures of Python Programming language. They also discussed about difference between python 2.0 and 3.0 and advised to have installed ANACONDA (Python IDE). They also told us about benefits and usage of anaconda and then onwards participants practised more than enough examples of different syntax, logics, and scripts in python along with hand to hand guidance. At the end of day, students from Mobile communication & Network Technology had good catch on python and as of Cyber Security Students, which were already familiar with Python ,they also got way more confident after end of 1<sup>st</sup> day's session



**Figure: Active participation during hands-on Expert session of Python**

**DAY 2 (03<sup>rd</sup> December 2019):**

- Introduction to OOP (Object Oriented Programming)
- Brief knowledge regarding Class & Objects
- Concept of Inheritance in Python
- Basic of Socket Programming
- Usage of Sockets in Networking

It was second day of session and every students were looking so excited and eager to learn something new. Whereas both of experts were also quite enthusiastic to teach and share knowledge among students. Starting with revision of previous day session, they introduced about OOP approach of programming that is based on classes & objects. Students came to know about various aspects of Object Oriented Programming and practised multiple examples of it. Then onwards, they told us about another amazing features of python i.e. “Inheritance” and also covered few examples of it. Moving on, they gave us brief Info regarding Sockets Programming and usages of Sockets in Networking.

**DAY 3 (04<sup>th</sup> December 2019):**

- Socket Implementation using Python
- GUI Based application development using Tkinter
- Introduction to NUMPY module and its usages
- Getting started with CONDA

Session started with discussion on usage of Python for socket implementation. And they explained working of SOCKET in python with a live example of Server and Client side chat script. Then onwards they also told us about vast usage of sockets in any Network based communication system. After it, we came to know about GUI programming in python using Tkinter module which is inbuilt module of python. Prof. Abhisek Sir demonstrated us usage of tkinter for designing GUI based apps and students also practised few of GUI based scripts. Moving further, we came to know about another inbuilt module of python i.e. "Numpy". Prof. Abhisek sir introduced us about major usage and working of numpy module in python. Using it, we practised many of multidimensional array based operations and examples.

#### **DAY 04 (05<sup>th</sup> December 2019):**

- Web Scrapping using Python
- DATA Analysis using numpy & conda
- DATA ANALYST Results visualisation via various Bars and Graphs
- Arrival of another two chief Experts from Vodafone
- Introduced latest trends (AI, Deep Machine Learning, Robotics, Cloud Computing, Virtual Reality, Augmented Reality etc.)
- Usage & Applications of Data Science.
- Latest techs/innovations happening in around world

Fourth day of session started with introduction of web scrapping and its real life usages and then Prof. Abhishek Sir explained us working and implementation of web scrapping in python with a live example. Then onwards, we came to know about how web scrapping can be useful in Mobile communication as well as in Cyber Security related tasks. Afterwards Expert Manjit Ma'm introduced us with DATA Analyses and its huge applications and usages in today's technical world. She also explained Data Analyses procedures and steps involved in it and gave us a live example by showing us live implementation on data analyses using Python and its various inbuilt and advance modules. She also gave a few problem statements and to work on it by using python at that moment only and students were quite responsive at that. Then onwards she also shown us visualisation of results of analyses by different graph and charts using Metasploit module.

In Afternoon at 2 o'clock, there came chief guest (GMs of Vodafone Ahmedabad Mrs. Sarada Raman & Mr. Harsh Trivedi) who gave us detailed info regarding current techs and trends which are trending and are about to become top most technologies in upcoming nearby future (such as AI, Deep Machine Learning, Robotics, Cloud Computing, Virtual Reality, Augmented Reality and many more) and they also give a brief info regarding various Technical Activities and Experiments running within VODAFONE Organisation itself.



**Figure: General Managers of Vodafone (Ahmedabad) discussing Futuristic Technologies**

**Question answer session:**

In this session both the experts were having such great patience & practice from long time. During whole Question session, they explained and resolved every question and queries of students. And they also encouraged students to explore these uprising tech trends.



**Figure: Facilitating Experts with Memento by GTU Cyber Prof. Deepak Sir**

**CONCLUDING STATEMENT:**

Four-Days Expert Session on Python Programming was conducted successfully by the both of experts. .In their session, there was very good statistical data on usage of Python in current tech world. The session provided an opportunity for the participants to learn various aspects of Python Programming and to exchange ideas at the end of each session during question-answer and discussion with the experts. The event helped in bringing together experts from academia to meet, discuss, and share views and experiences on various topics of Python Programming and Data Analysis with the participants. And also putting on expectations in Data Analyst, AI & Machine Learning (as of Research opportunities) for all the participants.



**Figure: A group photo along with participants and Experts for remembrance.**

**FEEDBACK:**

- All of participants present during Four Day's Session highly appreciated the efforts and they really liked all of the topics of the session.
- Participants were much impressed by the organization of the Seminar and also appreciated the views and knowledge shared by experts and session speakers during various sessions.
- Question-Answer at the end of each session helped to solve the queries of participants and developed an urge to think more in this field. Session experts shared their contact details for further interaction for interested participants.
- Every one of participants were eager for such more sessions in nearby future.