

**Department of Electronics and Telecommunication**  
**Event Report**

**Internship on Machine Learning & Image Processing using Python (15/6/2020 to 26/6/2020)**

**Event Information**

**Event Type:** SDP

**Event title:** Embedded system – Machine Learning & Image Processing using Python

**Resource Person:** Pushkar Sathe, Shyamala Mathi, Swati Rane, Kintu Patel

**Event date: From:** 15/6/2020 **To:** 26/6/2020

**Organized for:** Student

**Organized by:** EXTC Department

**Target audience (branch & nos.):** EXTC, ME, CE, IT, FE – 40 students

**Attachments:** 1. Photographs (in JPEG/PNG)

2. Attendance report

3. Feedback

## Event Description

Day\_1 (15th June 2020):

- Introduction to Python, datatypes, Numpy
- Hands on the datatypes and Numpy

Day\_2 (16th June 2020):

- Python for Data Science
- Pandas: Introduction to Pandas, Series,
- Data frames – Missing Data, Group by, merging, operations and Data i/p and o/p
- Hands on the above topics and Pandas Exercises

Day\_3 (17th June 2020):

- Python for Data Visualization using Matplotlib and seaborn
- Hands on Data Visualization using Matplotlib and Seaborn. Exercises on the topics

Day\_4 (18th June 2020):

- Introduction to digital image processing, image enhancement techniques
- Hands on image enhancement techniques using opencv

Day\_5 (19th June 2020):

- Image segmentation, morphological processing
- Implementation of image segmentation and morphological processing techniques

Day\_6 (20th June 2020):

- Image filtering, Image transform
- Implementation of filtering and transformation

Day\_7 (21th June 2020):

- Basics of machine learning, simple linear regression
- Practical implementation and exercise problem of simple linear regression

Day\_8 (22nd June 2020):

- Multiple Linear Regression and Logistic Regression
- Practical Implementation and exercise problem

Day\_9(23rd June 2020):

- Decision tree algorithm, support vector machine
- Practical Implementation and exercise problem

Day\_10 (24th June 2020):

- Basic concepts of Naive Bayes
- Practical Implementation and exercise problem

Day\_11(25th June 2020):

- K-means and KNN algorithms
- Practical implementation of the above mentioned topics and exercise problem

Day\_12 (26th June 2020):

- Basics of neural network, types of neural network
- Practical implementation of image classifier model using neural network

## 1. Photographs (in JPEG/PNG)



## 2. Attendance report (Scanned copy)

## Image Processing and Machine Learning using Python (FH2020)

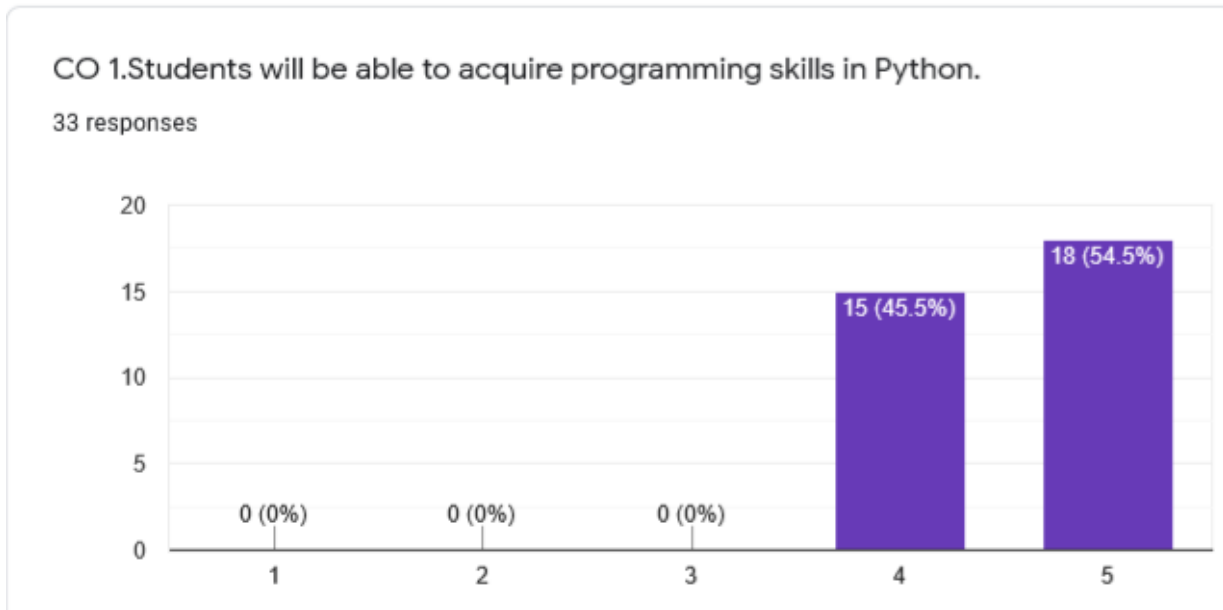
Duration: 15/06/2020 to 26/06/2020

Sr. No.	Name of the students										
	15.06.2020	16.06.2020	17.06.2020	18.06.2020	19.06.2020	20.06.2020	22.06.2020	23.06.2020	24.06.2020	25.06.2020	26.06.2020
1	aakriti sharma	AARTI PATIL	AARTI PATIL	AARTI PATIL	AARTI PATIL	gauri ramanathan	GAURI RAMANATHAN	AARTI PATIL	Aftaab Sheikh	gauri ramanathan	AARTI PATIL
2	AARTI PATIL	ABHISHEKH PARASURAMAN	ABHISHEKH PARASURAMAN	ABHISHEKH PARASURAMAN	aditi angad	meenakshi e	meenakshi e	aditi angad	aishwaryavelumani SIESGST	meenakshi e	Aftaab Sheikh
3	ABHISHEKH PARASURAMAN IYER	aditi angad	aditi angad	aditi angad	aishwaryavelumani SIESGST	sakshi rishipathak	sakshi rishipathak	Aftaab Sheikh	ajay arun	sakshi rishipathak	aishwaryavelumani SIESGST
4	aditi angad	aishwaryavelumani SIESGST	Aftaab Sheikh	aishwaryavelumani SIESGST	ajay arun	pooja reshim	pooja reshim	aishwaryavelumani SIESGST	badveparth SIES GST	pooja reshim	ajay arun
5	aishwaryavelumani SIESGST	ajay arun	aishwaryavelumani SIESGST	ajay arun	Amar Mandal	g dheeraj	g dheeraj	ajay arun	borhade mrudula	g dheeraj	Amar Mandal
6	ajay arun	Akash Maurya	ajay arun	Amar Mandal	badveparth SIES GST	dhanvi mange	dhanvi mange	Amar Mandal	dandwate gaurang	dandwate gaurang	badveparth SIES GST
7	Akash Maurya	Amar Mandal	Akash Maurya	ayshwarya mohan	borhade mrudula	ritu rao	dandwate gaurang	badveparth SIES GST	Divya Kamila	ritu rao	borhade mrudula
8	Amar Mandal	ayshwarya mohan	Amar Mandal	borhade mrudula	dandwate gaurang	aarti patil	ritu rao	borhade mrudula	diya chakrabarti	aarti patil	dandwate gaurang
9	badveparth SIES GST	borhade mrudula	borhade mrudula	dandwate gaurang	Divya Kamila	aditi angad	aarti patil	dandwate gaurang	g dheeraj	aishwaryavelumani siesgst	Divya Kamila
10	borhade mrudula	dandwate gaurang	dandwate gaurang	Dhanvi Mange	diya chakrabarti	aishwaryavelumani siesgst	aditi angad	Divya Kamila	Gaganpreet Singh	ajay arun	diya chakrabarti
11	sakshi shankar	Dhanvi Mange	Dhanvi Mange	Divya Kamila	g dheeraj	ajay arun	ajay arun	ritu rao	GAURI RAMANATHAN	amar mandal	g dheeraj
12	sant kedar	Divya Kamila	Divya Kamila	diya chakrabarti	Gaganpreet Singh	amar mandal	amar mandal	Sadish Nadar	gopale bhumika	borhade mrudula	pooja reshim

11	sakshi shankar	Dhanvi Mange	Dhanvi Mange	Divya Kamila	g dheeraj	ajay arun	ajay arun	ritu rao	GAURI RAMANATHAN	amar mandal	g dheeraj
12	sant kedar	Divya Kamila	Divya Kamila	diya chakrabarti	Gaganpreet Singh	amar mandal	amar mandal	Sadish Nadar	gopale bhumika	borhade mrudula	pooja reshim
13	sharma nishant	diya chakrabarti	diya chakrabarti	ritu rao	GAURI RAMANATHAN	borhade mrudula	borhade mrudula	SAKSHI RISHIPATHAK	RIKIN NANOTE	sharma nishant	Prathamesh Thakur
14	shinde ratish	g dheeraj	g dheeraj	Sadish Nadar	gopale bhumika	sharma nishant	sharma nishant	sakshi shankar	ritu rao	shinde ratish	rashmi shankar
15	Shlok Naik	Gaganpreet Singh	Gaganpreet Singh	saideep raju	jadhav sumit	shinde ratish	shinde ratish	sharma nishant	Sadish Nadar	shlok naik	RIKIN NANOTE
16	shruti azhagu	GAURI RAMANATHAN	GAURI RAMANATHAN	SAKSHI RISHIPATHAK	jaisingh narayan	shlok naik	shlok naik	shinde ratish	SAKSHI RISHIPATHAK	swapnil vishwakarma	ritu rao
17	Swapnil Vishwakarma	gharat nishant	gopale bhumika	sakshi shankar	jinarijal shweta	shruti azhagu	shruti azhagu	Shlok Naik	sharma nishant	tanuj bhoir	Sadish Nadar
18	tanuj bhoir	gopale bhumika	jadhav sumit	sant kedar	khuspe aditi	swapnil vishwakarma	swapnil vishwakarma	Swapnil Vishwakarma	shinde ratish	watharesanskriti sies gst	SAKSHI RISHIPATHAK
19	thevar mahalakshmi	jadhav sumit	jagjeet singh	sharma nishant	kunalatmhane SIES GST	tanuj bhoir	tanuj bhoir	tanuj bhoir	Shlok Naik	yadav aditi	sakshi shankar
20	watharesanskriti SIES GST	jagjeet singh	jinarijal shweta	shinde ratish	lavanya samanta	watharesanskriti sies gst	watharesanskriti sies gst	SIES GST	Swapnil Vishwakarma	yadav balaji	sharma nishant
21	yadav aditi	jaisingh narayan	khuspe aditi	Shlok Naik	meenakshi e	yadav aditi	yadav aditi	yadav aditi	tanuj bhoir	sadish nadar	shinde ratish
22	yadav balaji	jinarijal shweta	kunalatmhane SIES GST	shruti azhagu	mukherjeeswapnendu SIES GST	yadav balaji	yadav balaji	yadav balaji	watharesanskriti SIES GST	sakshi shankar	Shlok Naik
23	rashmi shankar	karuna saravanan	lavanya samanta	Vishwakarma	Mushahid Gaonkhadkar	sadish nadar	sadish nadar	rashmi shankar	yadav aditi	rashmi shankar	Swapnil Vishwakarma
24	RIKIN NANOTE	kavitha ashok	meenakshi e	tanuj bhoir	pooja reshim	saideep raju	saideep raju	RIKIN NANOTE	yadav balaji	rikin nanote	tanuj bhoir
25	ritu rao	khuspe aditi	mukherjeeswapnendu SIES GST	watharesanskriti SIES GST	Prathamesh Thakur	sakshi shankar	sakshi shankar	meenakshi e	Mushahid Gaonkhadkar	mushahid gaonkhadkar	watharesanskriti SIES GST
26	Sadish Nadar	Kotian Smruti	Mushahid Gaonkhadkar	yadav aditi	rashmi shankar	nadar shubhadarshini	nadar shubhadarshini	nadar	Mushahid Gaonkhadkar	shubhadarshini	khuspe aditi
27	saideep raju	GST	nadar shubhadarshini	yadav balaji	RIKIN NANOTE	rashmi shankar	rashmi shankar	nadar shubhadarshini	pooja reshim	kunalatmhane sies gst	kunalatmhane SIES GST

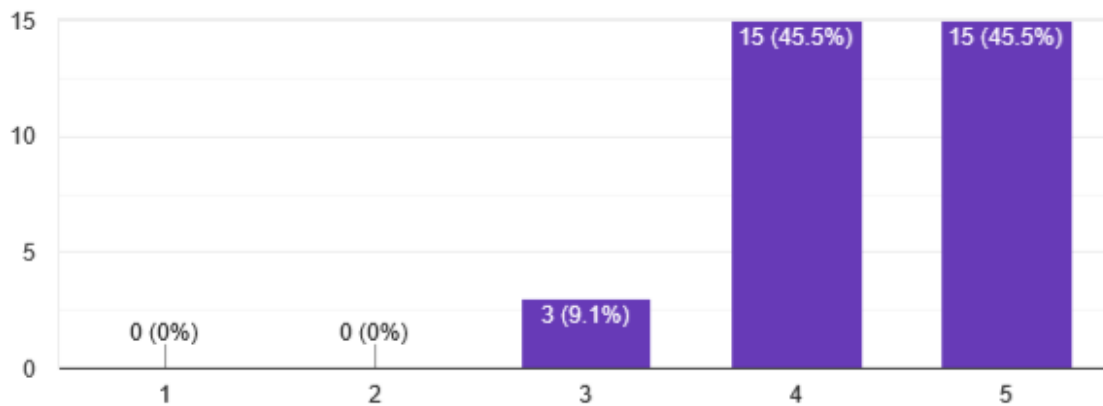
28	SAKSHI RISHIPATHAK	lavanya samanta	pooja reshim	Prathamesh Thakur	ritu rao	rikin nanote	rikin nanote	pooja reshim	jinarijal shweta	lavanya samanta	lavanya samanta
29	pooja reshim	meenakshi e	Prathamesh Thakur	rashmi shankar	Sadish Nadar	mukherjeeswap nendu sies gst	mukherjeeswapnendu	Prathamesh Thakur	khuspe aditi	jinarijal shweta	meenakshi e
30	Prathamesh Thakur	mukherjeeswapnendu SIES GST	RIKIN NANOTE	RIKIN NANOTE	saideep raju	mushahid gaonkhadkar	mushahid gaonkhadkar	jinarijal shweta	kunaitamhane SIES GST	gopale bhumika	Mushahid Gaonkhadkar
31	pratik kaluram	Mushahid Gaonkhadkar	ritu rao	kunaitamhane SIES GST	SAKSHI RISHIPATHAK	khuspe aditi	khuspe aditi	khuspe aditi	lavanya samanta	jadhav sumit	nadar shubhadarshini
32	lavanya samanta	nadar shubhadarshini	Sadish Nadar	lavanya samanta	sakshi shankar	kunaitamhane sies gst	kunaitamhane sies gst	kunaitamhane SIES GST	meenakshi e	jadveet singh	jinarijal shweta
33	meenakshi e	nimesh nair	SAKSHI RISHIPATHAK	meenakshi e	sant kedar	lavanya samanta	lavanya samanta	lavanya samanta	jadhav sumit	jaisingh narayan	khuspe aditi
34	mukherjeeswapnendu SIES GST	pooja reshim	sakshi shankar	mukherjeeswapnendu SIES GST	sharma nishant	jinarijal shweta	jinarijal shweta	GAURI RAMANATHAN	jadveet singh	diya chakrabarti	gopale bhumika
35	Mushahid Gaonkhadkar	pratik kaluram	sharma nishant	Mushahid Gaonkhadkar	shinde ratish	gopale bhumika	gopale bhumika	gopale bhumika	jaisingh narayan	gaganpreet singh	jadhav sumit
36	nikhitha jayaprakash	rashmi shankar	shinde ratish	pooja reshim	Shlok Naik	jadhav sumit	jadhav sumit	jadhav sumit	aditi angad	divya kamila	jadhav sumit
37	nimesh nair	RIKIN NANOTE	Shlok Naik	jaisingh narayan	shruti azhagu	jadveet singh	jadveet singh	jadveet singh	AARTI PATIL	aftaab sheikh	jadveet singh
38	karuna saravanan	ritu rao	shruti azhagu	jinarijal shweta	Swapnil Vishwakarma	jaisingh narayan	jaisingh narayan	jaisingh narayan		prathamesh thakur	jaisingh narayan
39	kavitha ashok	Sadish Nadar	Vishwakarma	khuspe aditi	tanuj bhoir	diya chakrabarti	diya chakrabarti	diya chakrabarti		badveparth sies gs	Gaganpreet Singh
40	khuspe aditi	saideep raju	tanuj bhoir	g dheeraj	watharesanskriti SIES GST	gaganpreet singh	gaganpreet singh	Gaganpreet Singh			GAURI RAMANATHAN
41	Kotian Smruti	SAKSHI RISHIPATHAK	watharesanskriti SIES GST	Gaganpreet Singh	yadav aditi	divya kamila	divya kamila				gopale bhumika
42	kunaitamhane SIES GST	sakshi shankar	yadav aditi	GAURI RAMANATHAN	yadav balaji	aftaab sheikh	aftaab sheikh				yadav balaji
43	jadhav sumit	sharma nishant	yadav balaji	gopale bhumika		prathamesh thakur					
44	jadveet singh	shinde ratish		jadhav sumit		sant kedar					

### 3. Feedback Report (Course exit)



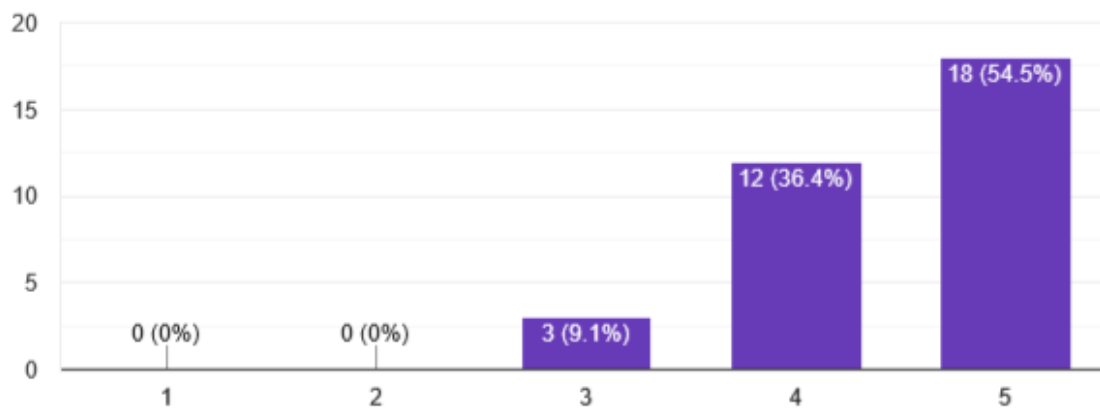
CO2. Students will be able to Perform all types of operations on the Dataset and Visualize data using the libraries (Numpy, Pandas, Matplotlib, Seaborn, OpenCV and Sklearn)

33 responses



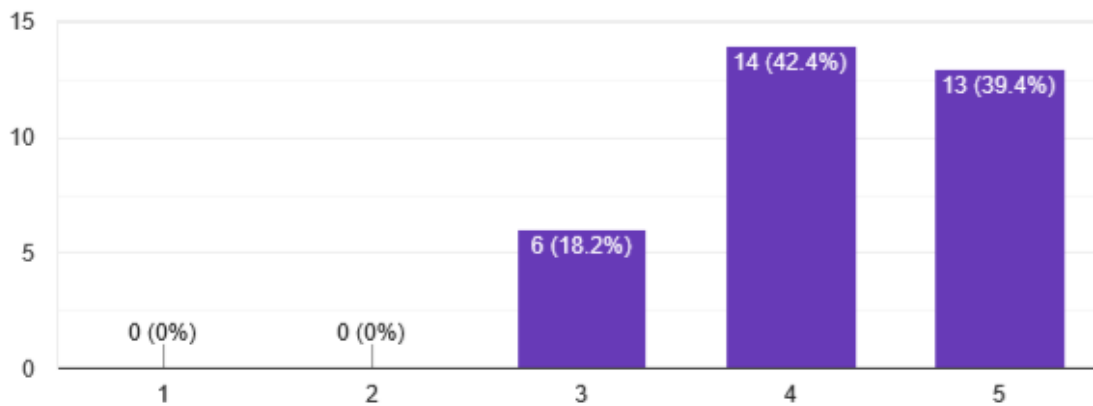
CO3. Students will be able to Perform basic operations on digital image using Python

33 responses



CO4. Students will be able to Implement classifier model for given data and compare its performance with other classifier.

33 responses



**Impact Analysis:** Students did mini projects in the field of machine learning using concepts of python learnt during 12 days of SDP.

**Brochure:**



## **SIES Graduate School of Technology**

### **Department of Electronics and Telecommunication**

Presents

#### **12 days Hands on Training on Machine learning and image processing using python**

15/ 06 / 2020 to 26/06/2020

There is difference between education and knowledge. Education provides learning. While knowledge translates that learning into a career that earns a living. But the truth is, our education system is largely structured around academic learning, leaving the task of turning it into a career to the individual. For the less-privileged though, the only barrier that stands between them and a technocrat is knowledge of practical aspects of technology.

This course is meant to be a hands-on type course, giving students a chance to learn python and its applications in image processing and Machine learning which is considered to be a current trend of technology.

#### **Objectives**

- i) Learn about Python language basics
- ii) Learns basics of image processing
- iii) Implement basic image processing using python



## Course Contents

### Module 1: Basics of python

Overview of python, python data types, built in data structure, Lists, tuples, dictionaries, string built in methods.

### Module 2: Applications in image processing

Histogram of image, splitting color image into RGB, histogram

Equalization, edge detection using simple operators.

### Module 3: Applications in Machine learning

Introduction to machine learning, data manipulation and preprocessing, data visualization, linear and logistic regression, support vector machines, decision tree, classification using KNN

## Who Should Attend

Any student from SE to BE (EXTC/IT/CE) - First come first serve

## Link for Registration

[https://docs.google.com/forms/d/e/1FAIpQLSdxXzeigY01YlZaw0kwexthk1Lcc2kZFzw\\_5HCkcm5zvDp3fA/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSdxXzeigY01YlZaw0kwexthk1Lcc2kZFzw_5HCkcm5zvDp3fA/viewform?usp=sf_link)

**Certificate:**