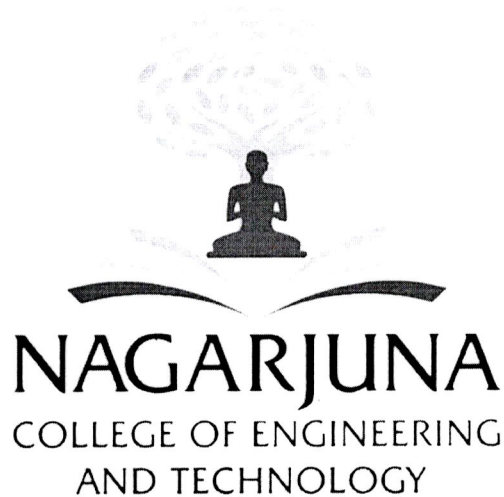


Nagarjuna College of Engineering & Technology

Bengaluru-562162

(An Autonomous Institution under VTU, Approved by AICTE, Accredited by NAAC with A+ Grade)



**Report
on**

**Workshop on Deep Dive into
Python Libraries & Real-World Machine
Learning Applications:
Development & Deployment**

Duration : 03-07-2023 to 17-07-2023 (15 Days)

Semester : IV

Nagarjuna College of Engineering & Technology, Bengaluru – 562 164

(Autonomous Institution under VTU, Accredited by NAAC 'A+' grade)

NCET School of Computing has Organized 15 Days Workshop on “**Deep Dive into Python Libraries & Real-World Machine Learning Applications: Development & Deployment**”, Under the Department Technical Association from 3rd July to 17th July 2023. The IV Semester students of B.E(ISE), B.E(CSE), B.E-CSE (Data Science), B.E-CSE (AI&ML) are actively participated in the Workshop. A total of 240 Students from School of Computing departments of NCET have enthusiastically participated in the event. The workshop for the IV Semester students is organized by the ISE Head of the department Dr. Sanjeevakumar M Hatture, CSE Head of the department Dr. Anil Kannur, CSE (Data Science) Head of the department Dr. Syed Naimatullah Hussain, and CSE (AI&ML) Head of the department Dr. Vijayanand R. The keynote speakers and Mentor and AI Engineer, Indoskill Mr. Mohammed Azhar Hussain and his team are the resource persons of the Workshop. The Workshop is scheduled for 31 Hours spread across 15 days, which is organized in association with Internal Quality Assurance Cell (IQAC). The workshop on “**Deep Dive into Python Libraries & Real-World Machine Learning Applications: Development & Deployment**”, is in hands-on and help students in applying machine learning techniques to analyze real-world problems.

Details of the Workshop

Title of the Workshop : **Deep Dive into Python Libraries & Real-World Machine Learning Applications : Development & Deployment**

Duration of the Workshop : 03-07-2023 to 17-07-2023 (15 Days)

Contact Hours : 31 Hours

Mode : Offline and Hands-on

Semester : IV Semester

About the Workshop: In real world applications Artificial Intelligence (AI) and Machine learning techniques will play major role in analyzing the data to decision making activities. The value added course/workshop explores the fundamental concept, transformation of idea into programming. The workshop aims to introduce AI concepts and students will get an opportunity to Learn Industry ML Libraries like Scikit-Learn, Tensorflow & Keras. The students will be given hands-on exposure to working on Machine Learning Projects, learn to build the Predictive Models & Deployment in Production and explore the Cloud Platform for Model Deployment like Heroku or AWS. The workshop helps students to get Hands-on experience of using Python Libraries and exposure to Online App Development Platforms like streamlit & Gradio.

Objectives:

1. Learn the Complete basics of Python Programming
2. Learn the Practical usage of Python Libraries
3. Solves the Real-Time Industry Application Projects
4. Students will Learn App Development Tools
5. Get Introduced to Basic Concepts behind Machine Learning & Deep Learning
6. Get Introduced to Artificial Intelligence
7. Students will get an opportunity to Learn Industry ML Libraries like Scikit-Learn, TensorFlow & Keras
8. Students will be given hands-on exposure to working on Machine Learning Projects
9. Students will learn to build the Predictive Models & Deployment in Production
10. Students will Cloud Platforms for Model Deployment like Heroku or AWS

Course Learning Outcome:

1. Students get Hands-on experience of using Python Libraries
2. Hands-on with Online App Development platforms like Streamlight & Gradio
3. Problem-Solving skills will be improved
4. Students will Learn Python Libraries which leads to a strong foundation in Machine Learning.
5. Solves 20+ Real-World Application Problems & Solutions
6. Individual students will be allocated a separate project to build by using the skills developed during training
6. Hands-on with Python Libraries which leads to a strong foundation in Machine Learning.
7. Understands Predictive Models Building & Deployment
8. Students will get experience with Scikit-learn, Pandas, Django / Streamlit, and Heroku
9. Five Major Projects will be solved & a separate Capstone project will be assigned to all students

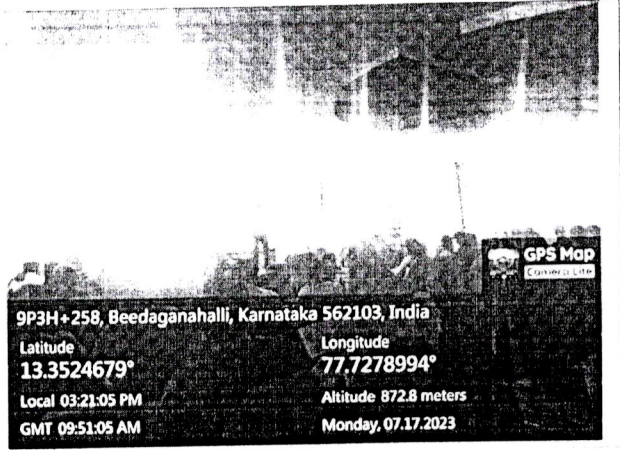
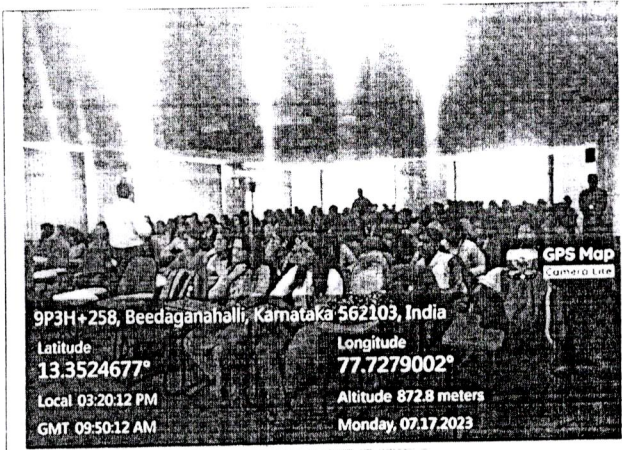
Syllabus:

UNIT	TOPICS	NO. OF HOURS
1	Python Basics, List, tuple, Dictionary, sets if, elif, while and for loop Functions Modules Project - BMI Calculation	2 hours
2	Anaconda & Spider IDE Installation Numpy Library: Numpy arrays, Mathematical & statistical functions	2 hours
3	Pandas Library: Series	2 hours
4	Pandas Library: DataFrames creation	3 hours
5	Project - Using numpy and Pandas Project Allocation - each student will be allocated a project	2 hours
6	Matplotlib graphs: Line graph, Scatter plot, bar graph, Histogram & Pie chart Data visualisation - Univariate, Bivariate & Multivariate Analysis Example Project I: Data Exploration & Analysis on Titanic Dataset Graphs in SeaBorn Library - Distplot, Box Plot, Countplot & Heatmap	Full Day 7 Hours
7	Project - Using numpy, Pandas and Data Visualization Data wrangling in Machine Learning	2 hours
8	Train Test Split in Machine Learning What is Machine Learning & its applications	2 hours
9	Machine Learning Models - Regression & Classification Introduction to Regression Models - Linear Regression, Multilinear Regression. Project: Salary Prediction based on Experience	2 hours
10	Data Encoding Methods: Labelling, Onehot with practical projects Project: Salary dataset Insurance Prediction using Classification Models	2 hours
11	Classification Models - Logistic Regression for e-Learning Project Deployment - Gradio platform	3 hours
12	Project Report Building Kaggle Introduction	2 hours

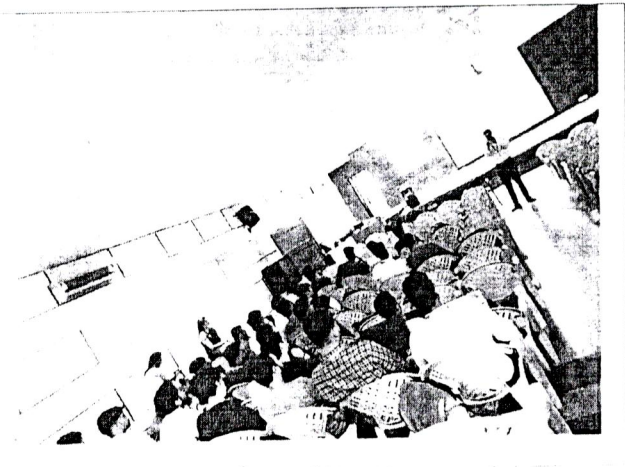
OUTCOMES OF THE WORKSHOP:

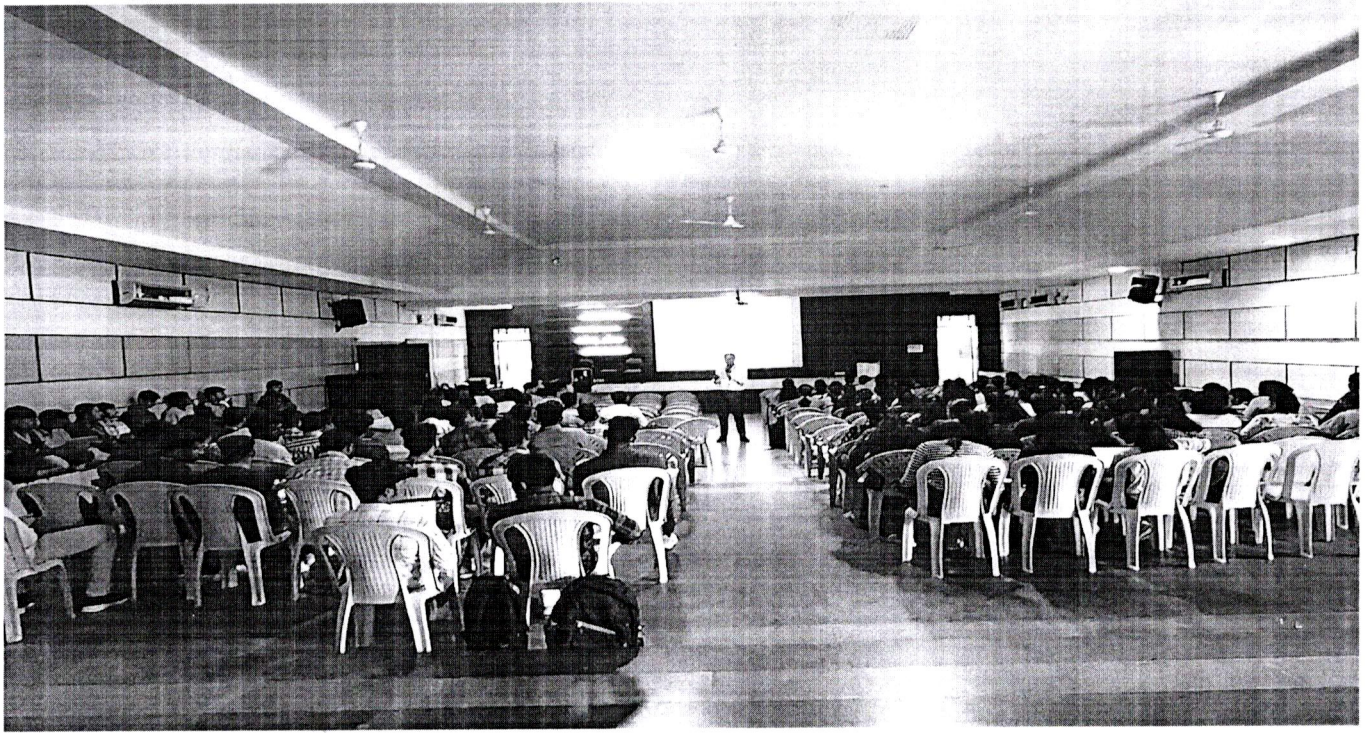
After successful completion of this workshop, the students will be able to:

1. Gain Knowledge on the principles and features of machine learning applications.
2. Learnt different inbuilt libraries and functions of Panda.
3. Gained Knowledge about using Jupiter platform for python language.



Students of IV Semester CSE (Data Science), CSE (AI&ML), CSE and ISE actively participating in the event





Snap of the event conducted successfully for the workshop delivered by Industry Expert **Mr Mohammed Azhar Hussain** and **Mr. Santhosh** in Seminar Hall Main Block and Auditorium NCET.

The ability to learn is a skill. Keep participating and improve your skills day by day.


HoD-CSE


HOD-ISE


HoD-CSE (DS)


HoD-CSE (AI&ML)

15 days workshop on Python Libraries & Machine learning applications from 03th July to 15th July 2023

Day	Session	Time	Content
Day 1	Hands-on Session	Afternoon Session	Python Basics
			List, tuple, Dictionary, sets
			if, elif, while and for loop
			Functions
			Moduls
			Project - BMI Calculation
Day 2	Hands-on Session	Afternoon Session	Anaconda & Spider IDE Installation
			Numpy Library: Numpy arrays,Mathematical & statistical functions
Day 3	Hands-on Session	Afternoon Session	Pandas Library: Series
Day 4	Hands-on Session	Afternoon Session	Pandas Library: DataFrames creation
Day 5	Hands-on Session	Afternoon Session	Project - Using numpy and Pandas
			Project Allocation - each student will be allocated a project
Day 6	Hands-on Session	Morning Session	Matplotlib graphs: Line graph, Scatter plot, bar graph, Histogram & Pie chart
			Data visualisation - Univariate, Bivariate & Multivariate Analysis
		Lunch Break	
		Afternoon Session	Example Project1:Data Exploration & Analysis on Titanic Dataset
Graphs in SeaBorn Library - Distplot, Box Plot, Countplot & Heatmap			
Day 7	Hands-on Session	Afternoon Session	Project - Using numpy , Pandas and Data Visualization
			Data wrangling in Machine Learning
Day 6	Hands-on Session	Afternoon Session	Train Test Split in Machine Learning
			What is Machine Learning & its Applications
Day 9	Hands-on Session	Afternoon Session	Machine Learning Models - Regression & Classification
			Regression.
			Project: Salary Prediction based on Experience
Day 10	Hands-on Session	Afternoon Session	Data Encoding Methods: Labelling, Onehot with practical projects
			Project: Salary dataset Insurance Prediction using Classification Models
Day 11	Hands-on Session	Afternoon Session	Classification Models - Logistic Regression for e-Learning
			Project Deployment - Gradio platform
Day 12	Hands-on Session	Afternoon Session	Project Report Building
			Kaggle Introduction

IndoSkill Feedback Form

Cumulative Report

Branch: 4th Sem, School of Computing, Nagarjuna College of Engineering, Bengaluru

Workshop: Deep Dive into Python Libraries & Real-World Machine Learning Applications - Development & Deployment

Date: 3rd July to 17th July 2023

No. of Students Feedback Responses: 141

Rating: 5 – Excellent, 4 - Very Good, 3 – Good, 2 – Fair, 1 – Poor

Sl No	Questions	Rating(out of 5)
1	The content shared was valuable and was clear and to the level of my understanding	4.50
2	The training is applicable to my role and will support me in my functional role	4.47
3	The trainer was able to give me hands-on experience and demo which made it easier for me to follow	4.55
4	The training was structured and time management was well planned	4.59
5	How knowledgeable was the trainer	4.60
6	The presentation was good and queries/doubts raised were answered	4.62
7	Overall Rating	4.55

Feedback link:

<https://forms.gle/ktPP3PguERmVT6gu8>

Response Sheet link:

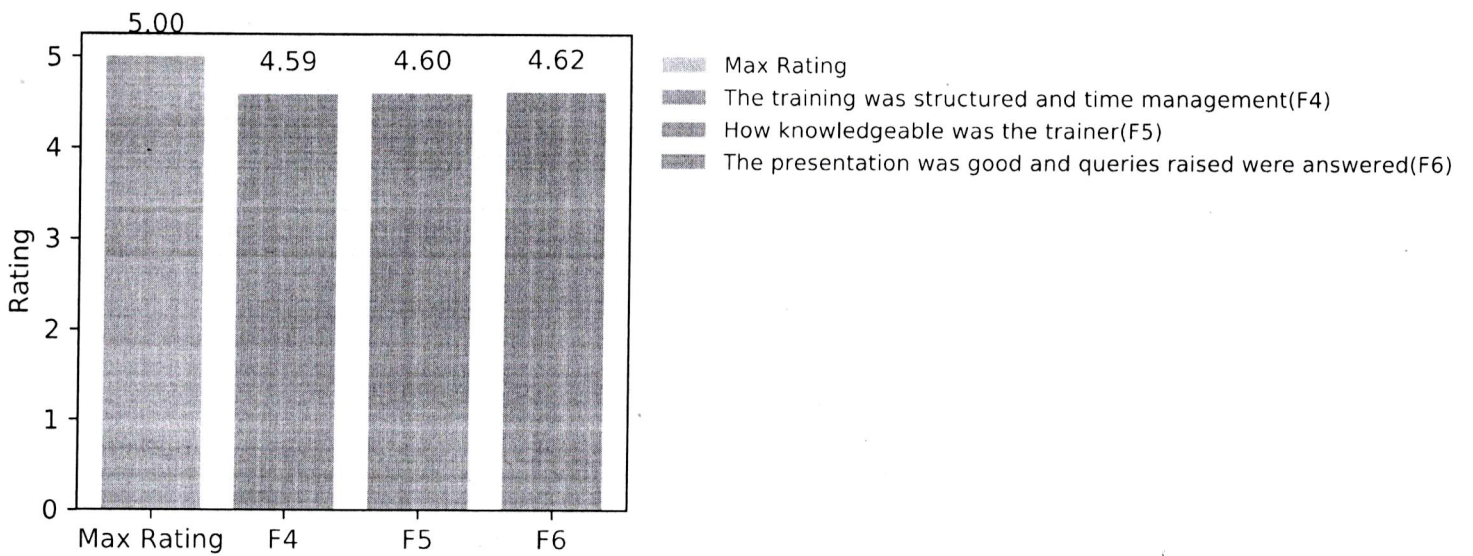
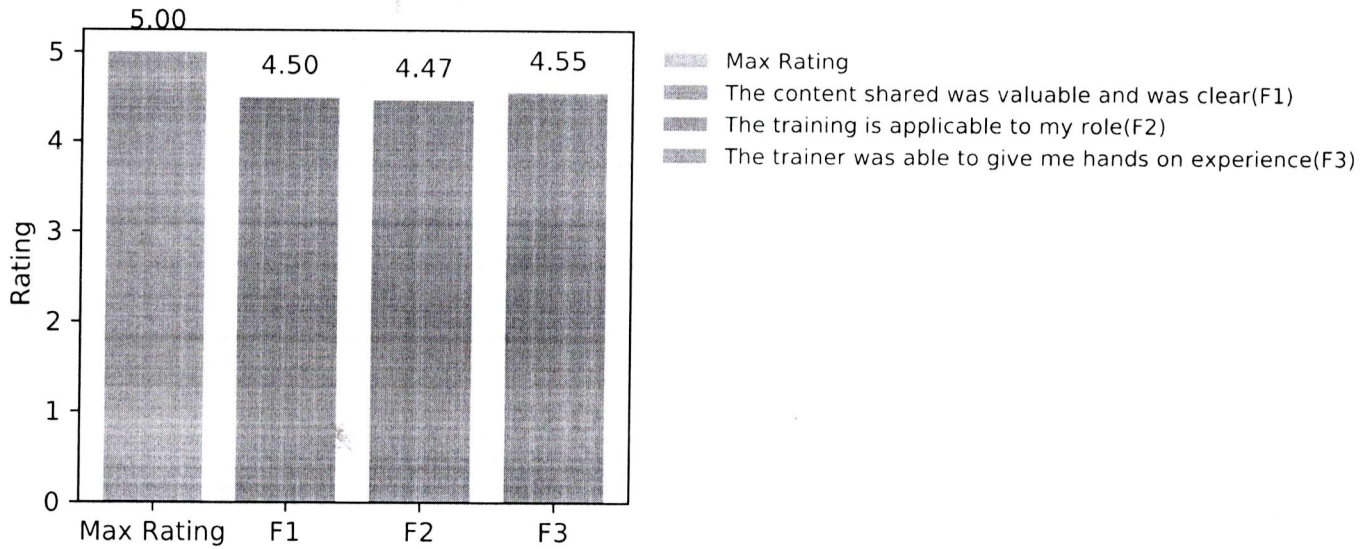
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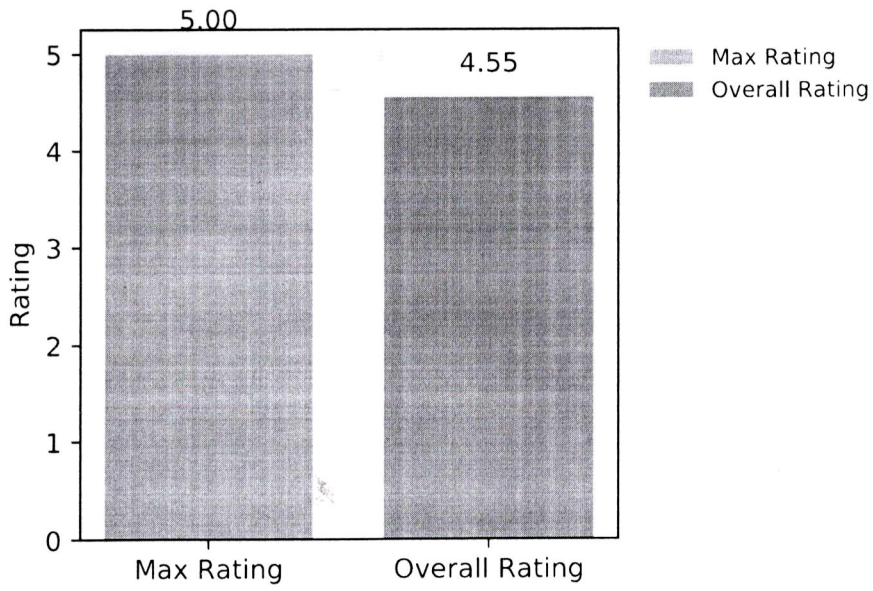


www.IndoSkill.in

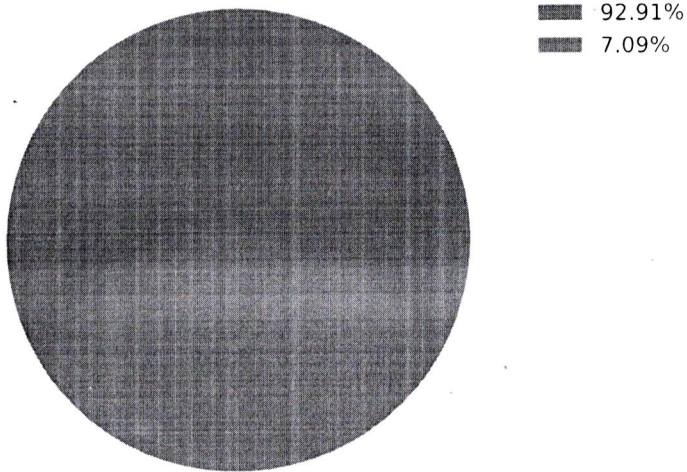
For Indoskill
Mohammed Azhar Hussain
Ph: 9738802359 / 9743396604
CTO - Aqmenz Automation Pvt Ltd
Bangalore - 32

FEEDBACK REPORT





Are you Interested to join Workshop on Advanced Technologies with Indoskill in Future?



Responses

Timestamp	Name	USN No. (University Seat No)	Semester	Branch	Phone No.	Whatsapp No.	Email Id	1) The content shared was valuable and was clear to the level of my understanding
7-17-2023 15:32:20	A Charan Chandu	1NC21CD002	4	Data Science	6302299722	6302299722	ychandu032@gmail.com	4
7-17-2023 15:28:42	AMAN	1NC21CD005	4	Data Science	6280955923	6280955923	amank959030@gmail.com	3
7-17-2023 15:25:05	Ashwini Sunkal	1NC21CD006	4	Data Science	6363016247	8792036218	ashwnisa2002@gmail.com	5
7-17-2023 15:24:48	Bhanupriya R	1NC21CD007	4	Data Science	9901340625	9901340625	bhanupriya681@gmail.com	5
7-17-2023 15:23:17	Krupakar Bhimaneni	1NC21CD008	4	Data Science	9573449161	9573449161	chowdharykrupa@gmail.com	5
7-17-2023 15:26:21	SESHADRI	1NC21CD009	4	Data Science	9392956894	9392956894	seshadrisai23@gmail.com	5
7-17-2023 15:24:24	Chinmai	1nc21cd012	4	Data Science	8790611620	8790611620	chinmaichintalayagari@gmail.com	4
7-17-2023 15:24:28	DEEKSHA K	1NC21CD014	4	Data Science	8867156504	8867156504	deekshakanthraj83@gmail.com	5
7-17-2023 15:25:24	Satwan D	1NC21CD015	4	Data Science	9849080259	9849080259	dssatwan04@gmail.com	5
7-17-2023 15:27:13	DUMPALA VAMSIDHARREDDY	1NC21CD016	4	Data Science	8247814455	8247814455	vamsidharreddydumpala123@gmail.com	5
7-17-2023 15:26:51	E sai Mahendra	1NC21CD017	4	Data Science	9491063683	9491063683	saimahendraelluru18@gmail.com	3
7-17-2023 15:24:36	Kathy DeviShree	1nc21cd021	4	Data Science	8106305721	8106305721	kathydevishree@gmail.com	4
7-18-2023 9:27:02	K. Sarath Bayapa Reddy	1NC21CD024	4	Data Science	9347315854	9347315854	sarath4337@gmail.com	5
7-17-2023 15:24:29	Sai sony M	1NC21CD026	4	Data Science	6305154784	6305154784	sonychowdary2403@gmail.com	5
7-17-2023 15:25:49	Marrineni Niharika	1NC21CD028	4	Data Science	9776699222	9776699222	marrineniniharika@gmail.com	4
7-17-2023 15:24:39	Muppalla Mohitha	1NC21CD029	4	Data Science	8660429085	8660429085	mohithanarayana22@gmail.com	5
7-17-2023 15:25:27	N Rakesh	1NC21CD030	4	Data Science	9398994646	9398994646	nettemrakesh6@gmail.com	5
7-17-2023 15:25:08	Niharika N S	1NC21CD031	4	Data Science	9483859569	9483859569	niharikasathish16@gmail.com	4
7-17-2023 15:24:57	Nikhila S	1NC21CD032	4	Data Science	8792166301	8792166301	nikhiliasgowda@gmail.com	5
7-17-2023 15:24:42	Pamisetty Javavardhan	1NC21CD036	4	Data Science	9014413872	9014413872	jayajayava41@gmail.com	5
7-17-2023 15:30:22	PAVAN KALYAN G M	1NC21CD037	4	Data Science	9513943566	9513943566	pavantemont@gmail.com	3
7-17-2023 15:27:01	Rajveer Singh	1NC21CD040	4	Data Science	9622154799	9622154799	anshumanhas007@gmail.com	3
7-17-2023 15:25:28	Ramana Gokul k v	1NC21CD041	4	Data Science	6362750449	6362750449	RAMANAGOKULKV331@GMAIL.COM	5
7-17-2023 15:25:55	Rania Rakesh Solomon	1NC21CD042	4	Data Science	8073531158	8073531158	raniasolomon01@gmail.com	5
7-17-2023 15:24:05	Saba Anjum Y	1NC21CD045	4	Data Science	7204776784	7204776784	anjumsaba856@gmail.com	5
7-17-2023 15:23:26	Sateesh Babu	1NC21CD046	4	Data Science	8073868590	8073868590	sateeshbabu1718@gmail.com	5
7-17-2023 15:30:29	S Shaiksha vali	1NC21CD048	4	Data Science	9381939873	9381939873	shaikshav465@gmail.com	5
7-17-2023 15:24:20	Shujjad ali	1NC21CD050	4	Data Science	6006055017	6006055017	shujjalali683@gmail.com	3
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7-17-2023 15:26:26	Srividhya KR	1NC21CD052	4	Data Science	7483757360	7483757360	vidhyasandya807@gmail.com	5
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7-17-2023 15:24:09	Sumanth R	1NC21CD055	4	Data Science	8088205899	8088205899	sumanthckm2019@gmail.com	5
7-17-2023 15:26:11	Sushmitha G	1nc21cd056	4	Data Science	9902267235	9902267235	sushmithasushu778@gmail.com	5
7-17-2023 15:28:19	V Chaitanya Kumar reddy	1NC21CD060	4	Data Science	6309160675	6309160675	chaitureddyvennapusa@gmail.com	5
7-17-2023 15:23:29	Arun Sunkal	1NC21CI008	4	Artificial Intelligence & Machine Learning	6363882548	6363882548	suresharun_chi@gmail.com	3

2) The training is applicable to my role and will support me in my functional role	3) The trainer was able to give me hands on experience and demo which made it easier for me to follow	4) The training was structured and time management was well planned	5) How knowledgeable was the trainer	6) The presentation was good and queries / doubts raised were answered	8) Are you interested to do internship in Indoskill ?	9) Are you interested to join Workshop on Advanced Technologies with Indoskill in Future?	Comments
4	5	3	5	4	Yes	Yes	It was helpful to me and interesting
3	4	2	5	4	Yes	Yes	Nice training session
5	5	5	5	5	Yes	Yes	The training session was good Lot of information was shared and i understood the concepts
5	5	5	5	5	Yes	Yes	Very good internship
4	5	5	4	4	Yes	Yes	Nice internship and valuable
3	4	4	4	5	Yes	Yes	Good
5	5	5	5	5	Yes	Yes	Nothing
5	5	5	5	5	Yes	Yes	Internship was good
4	4	5	5	5	Yes	Yes	Program was very helpful to us Thank uh so much
4	4	4	4	4	Yes	Yes	Very good
4	4	4	4	4	Yes	Yes	It's very interesting for me and useful
5	5	5	5	5	Yes	Yes	It was the good and encouraging sessions
5	5	5	5	5	Yes	Yes	Good and useful
4	4	4	4	4	Yes	Yes	It's a good experience
5	5	5	5	5	Yes	Yes	No comments
5	5	5	5	5	Yes	Yes	No comments
4	4	4	4	4	Yes	Yes	Very Good sir
5	5	5	5	5	Yes	Yes	The training session was good
5	5	5	5	5	Yes	Yes	No comments
3	3	3	3	3	Yes	Yes	Overall Good
3	2	5	4	4	Yes	No	Everything is ok
4	4	4	5	5	Yes	Yes	
5	5	5	5	5	Yes	Yes	Very informative session
5	4	5	5	5	Yes	Yes	Excellent
3	3	3	3	4	Yes	Yes	Great job done by you sir keep it up
4	4	5	5	5	No	No	It's very useful and interesting
5	5	5	5	5	Yes	Yes	Good learning experience
5	5	5	5	5	Yes	Yes	Was good
5	5	5	4	5	Yes	Yes	The training section is good
4	4	4	4	4	Yes	Yes	The training session was very useful and we want more sessions and hands-on workshop from indoskill team Thankyou team
5	5	4	5	5	No	Yes	Very good experience in this 2 weeks .. very well
5	5	5	5	5	Yes	Yes	Good i have understood the concepts
5	5	5	5	5	Yes	Yes	Nothing
4	3	3	4	3	Yes	Yes	Enjoyed the sessions and it was informative