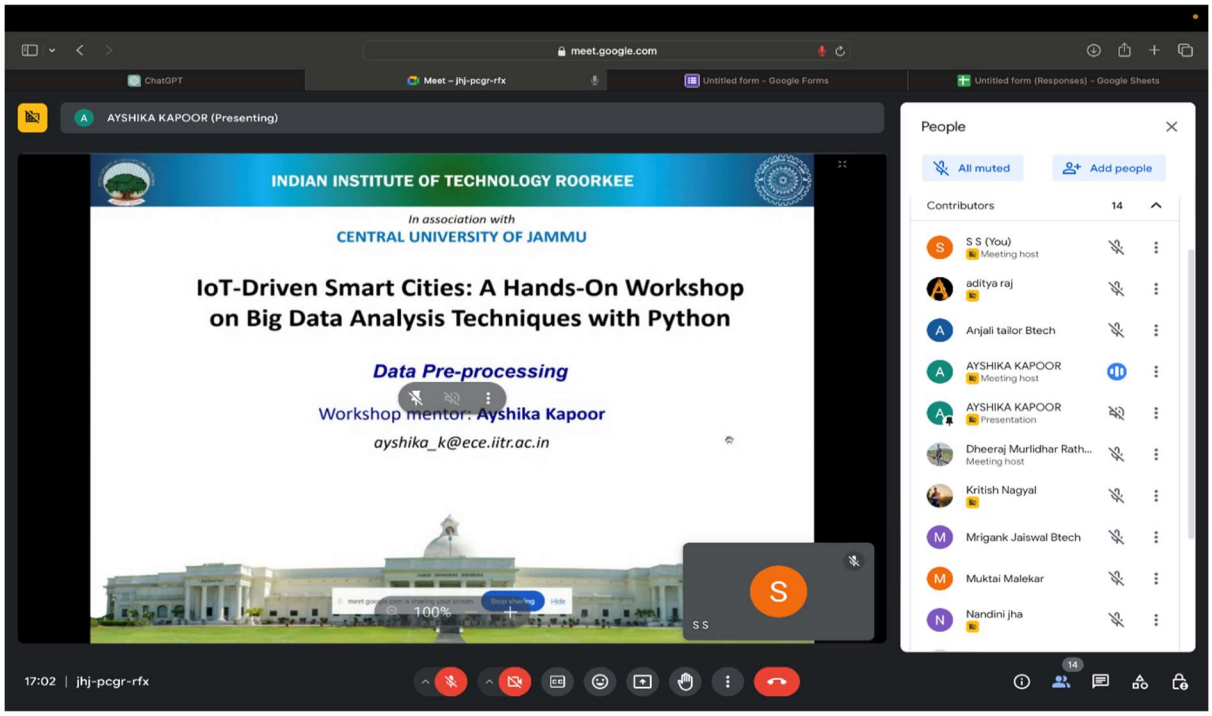
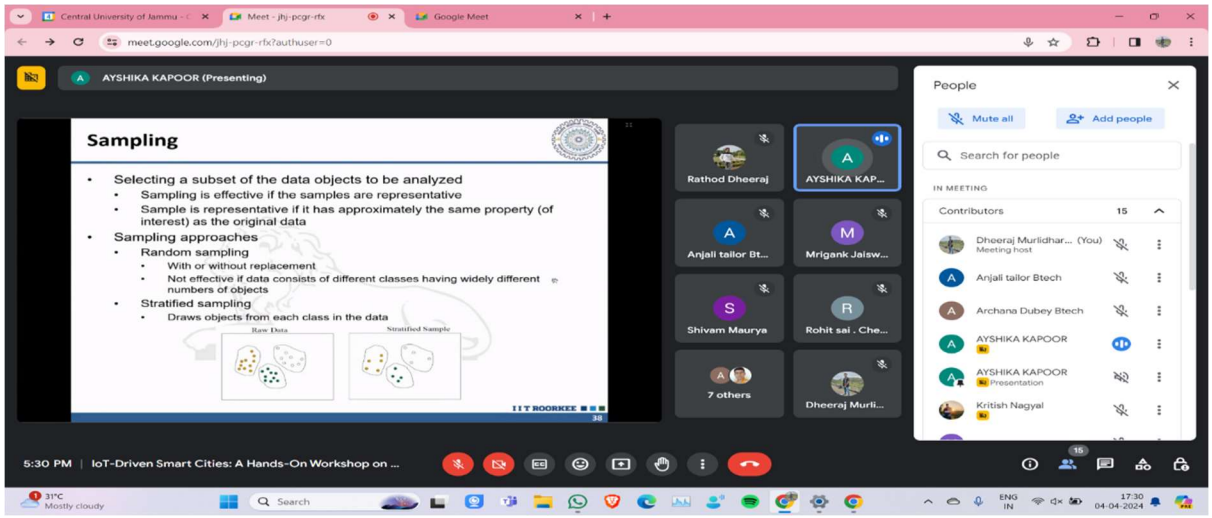
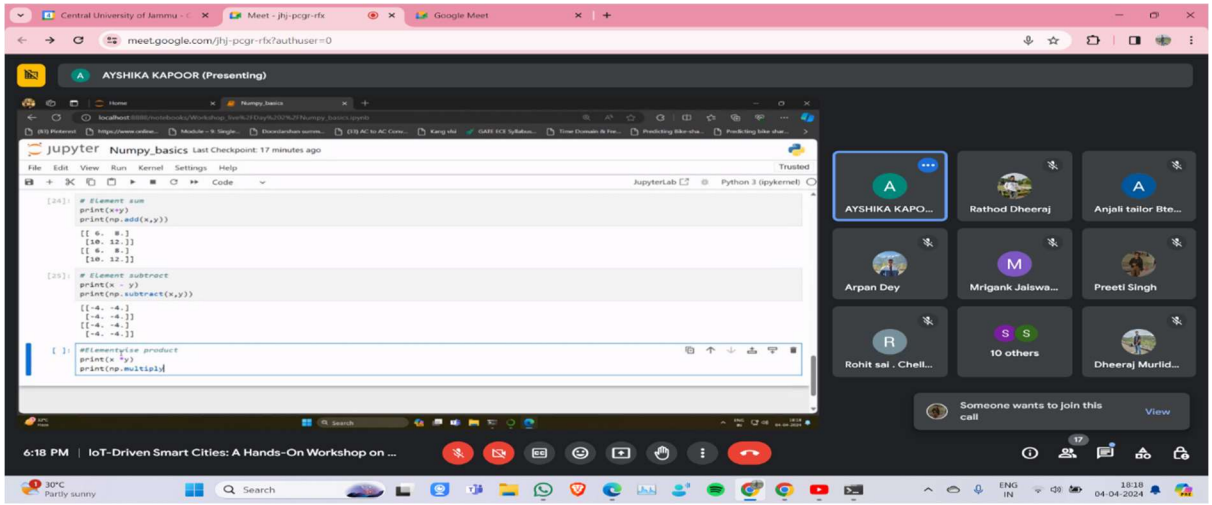
" IoT-Driven Smart Cities: A Hands-On Workshop on Big Data Analysis Techniques with Python", 3rd -12th April, 2024

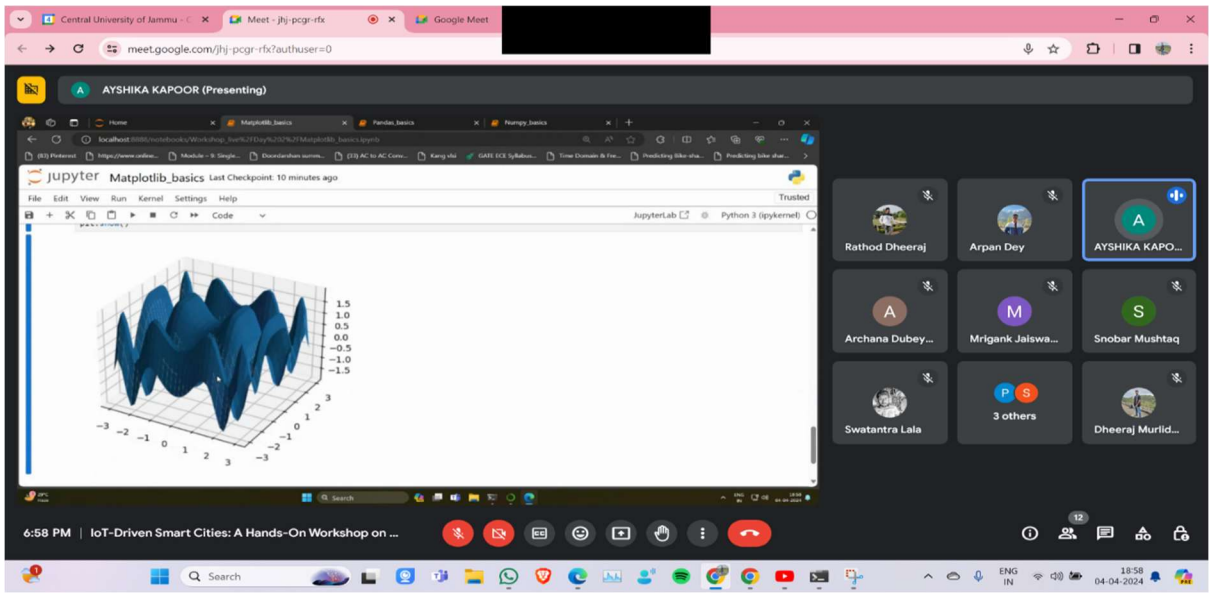
The advent of Internet of Things (IoT) technology has revolutionized urban infrastructure, paving the way for the development of smart cities. These cities leverage interconnected devices and sensors to collect vast amounts of data, enabling more efficient resource management, improved services, and enhanced quality of life for residents. In this context, workshops like **"IoT-Driven Smart Cities: A Hands-On Workshop on Big Data Analysis Techniques with Python"** play a crucial role in equipping professionals with the skills needed to harness the power of big data for optimizing urban environments. Therefore, the workshop focussed to the intersection of IoT, big data, and Python programming for smart city applications to empowering participants with practical knowledge and hands-on experience in utilizing Python-based tools and techniques for analyzing large datasets generated by IoT devices in urban environments. **Ayeshika Kapoor (P.M.R.F. research scholar from the Department of Electronics and Communication Engineering, IIT Roorkee)** conducted the workshop as a resource person at the Department of Electronics and Communication Engineering, Central University of Jammu from **3rd -12th April, 2024**. The workshop was coordinated by student's coordinators **(Dheeraj Rathod & Shashank Shekhar Barnwal),** and faculty coordinator Dr. Sunil Datt Sharma, Associate Professor, DoECE under mentorship of Professor Rakesh Kumar Jha, HoD, ECE, Central University of Jammu.

Highlights of the workshop




AYSHIKA KAPOOR (Presenting)
Sampling
Selecting a subset of the data objects to be analyzed
Sampling is effective if the samples are representative
Sample is representative if it has approximately the same property (of interest) as the original data
Sampling approaches
Random sampling
With or without replacement
Not effective if data consists of different classes having widely different numbers of objects
Stratified sampling
Draws objects from each class in the data
Raw Data
Stratified Sample
IIT ROORKEE
38
People
Mute all
Add people
Search for people
IN MEETING
Contributors 15
Dheeraj Murlidhar... (You) Meeting host
Anjali tailor Btech
Archana Dubey Btech
AYSHIKA KAPOOR
AYSHIKA KAPOOR Presentation
Kritish Nagyal
Rathod Dheeraj
AYSHIKA KAP...
Anjali tailor Bt...
Mrigank Jaisw...
Shivam Maurya
Rohit sai . Che...
7 others
Dheeraj Murli...
5:30 PM | IoT-Driven Smart Cities: A Hands-On Workshop on ...


AYSHIKA KAPOOR (Presenting)
jupyter Numpy_basics Last Checkpoint: 17 minutes ago
AYSHIKA KAPO...
Rathod Dheeraj
Anjali tailor Bte...
Arpan Dey
Mrigank Jaiswa...
Preeti Singh
Rohit sai . Cheil...
10 others
Dheeraj Murlid...
Someone wants to join this call
View
6:18 PM | IoT-Driven Smart Cities: A Hands-On Workshop on ...


AYSHIKA KAPOOR (Presenting)
jupyter Matplotlib_basics Last Checkpoint: 10 minutes ago
Rathod Dheeraj
Arpan Dey
AYSHIKA KAPO...
Archana Dubey...
Mrigank Jaiswa...
Snobar Mushtaq
Swatantra Lala
3 others
Dheeraj Murlid...
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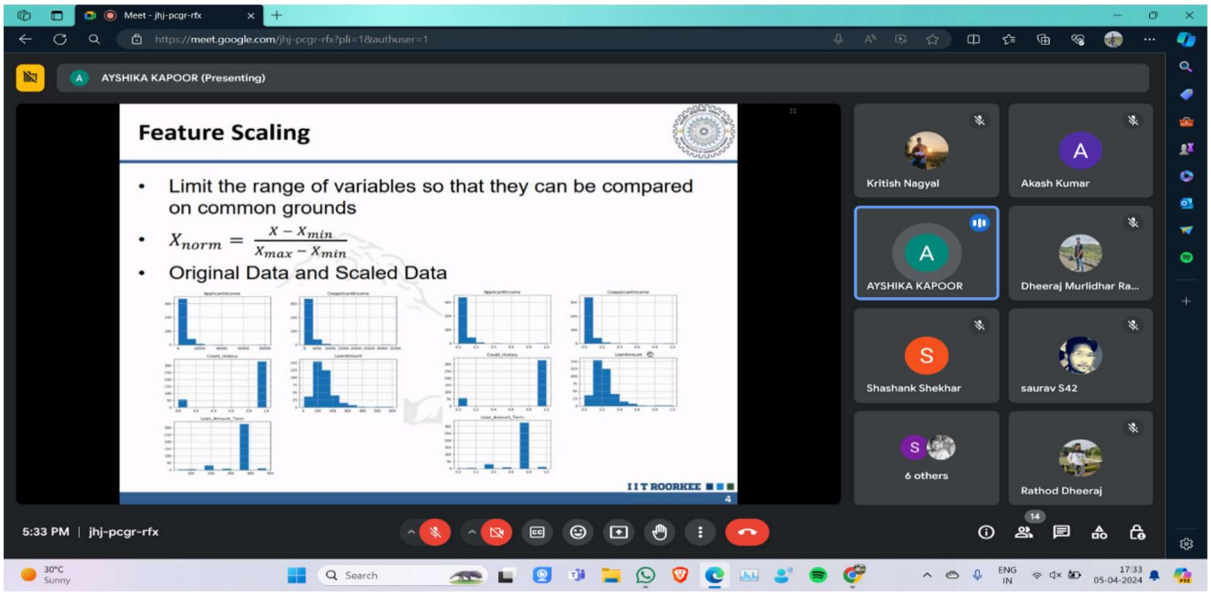
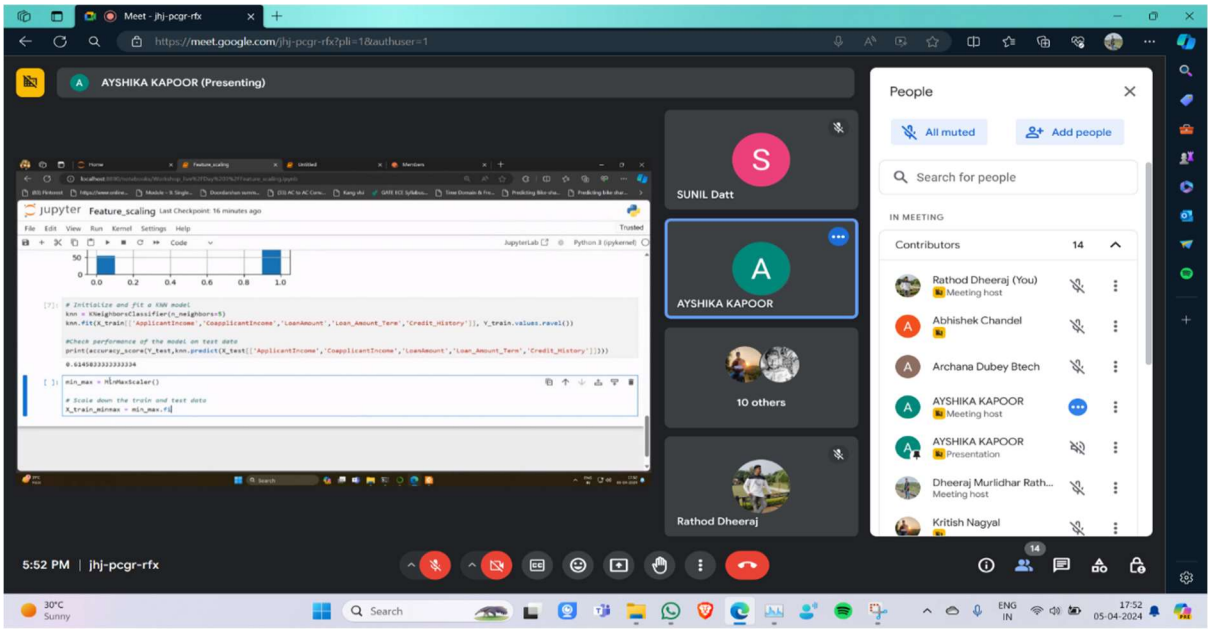

Meet - jhj-pcgr-rfx
https://meet.google.com/jhj-pcgr-rfx?pli=1&authuser=1
AYSHIKA KAPOOR (Presenting)
Feature Scaling
Limit the range of variables so that they can be compared on common grounds
$X_{norm} = \frac{X - X_{min}}{X_{max} - X_{min}}$
Original Data and Scaled Data
IIT ROORKEE
4
Kritish Nagyal
Akash Kumar
AYSHIKA KAPOOR
Dheeraj Murlidhar Ra...
Shashank Shekhar
saurav S42
6 others
Rathod Dheeraj
5:33 PM | jhj-pcgr-rfx
30°C Sunny
Search
ENG IN
17:33 05-04-2024


Meet - jhj-pcgr-rfx
https://meet.google.com/jhj-pcgr-rfx?pli=1&authuser=1
AYSHIKA KAPOOR (Presenting)
jupyter Feature_scaling Last Checkpoint: 16 minutes ago
# Initialize and fit a KNN model
knn = KNeighborsClassifier(n_neighbors=5)
knn.fit(X_train[['ApplicantIncome','CoapplicantIncome','LoanAmount','Loan_Amount_Term','Credit_History']], Y_train.values.ravel())
#Check performance of the model on test data
print(accuracy_score(Y_test,knn.predict(X_test[['ApplicantIncome','CoapplicantIncome','LoanAmount','Loan_Amount_Term','Credit_History']])))
0.6145833333333334
min_max = MinMaxScaler()
# Scale down the train and test data
X_train_minmax = min_max.fi
SUNIL Datt
AYSHIKA KAPOOR
10 others
Rathod Dheeraj
People
All muted
Add people
Search for people
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Contributors 14
Rathod Dheeraj (You) Meeting host
Abhishek Chandel
Archana Dubey Btech
AYSHIKA KAPOOR Meeting host
AYSHIKA KAPOOR Presentation
Dheeraj Murlidhar Rath... Meeting host
Kritish Nagyal
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