Fundamentals of Artificial Intelligence and Machine Learning

Target Group – Professors, Scientists, RA, SF, YP-II, PG and Ph.D. Students

Date of Training	21st Jan – 30st Jan, 2021
Time	3.30 p.m. – 5.00 p.m.
Location	CAE, JNKVV, JABALPUR

1. Training Objective

Python Training Program under NAHEP-CAAST-CSDA Project.

2. Participants

Coordinator - Dr. M.K. Awasthi, Co-PI, Dr. Sourabh Nema, Dr. Minakshi Meshram, Dr. Popat Shivaji Pawar, Dr. Umakant Rawat, Dr. Devendra Vasht, Pratiman Patel, Aniket Rajput, Anjali Patel, Rachit Nema, Krishna Singh, Pratima Pathak.

3. Contents of event

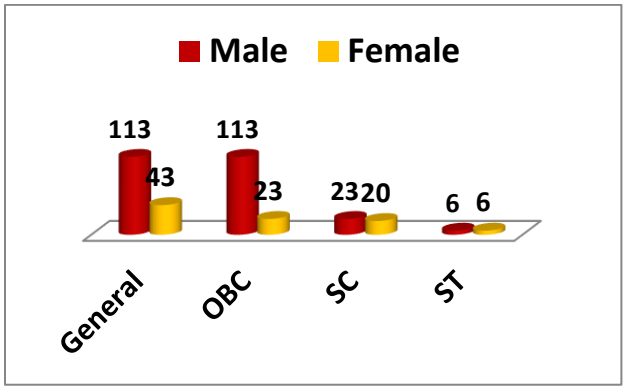
Date	**Speaker**	**Course Topic**
21st Jan 2021 (Day 1)	Mr. Sathish Singh	Understanding - AI and Machine learning
22nd Jan 2021 (Day 2)	Mr. Sathish Singh	Feature extraction from images
23rd Jan 2021 (Day 3)	Mr. Sathish Singh	Classification using ML algorithms (KNN, SVM, ANN)
24th Jan 2021 (Day 4)	Mr. Sathish Singh	Classification using ML algorithms (KNN, SVM, ANN)
25th Jan 2021 (Day 5)	Mr. Sathish Singh	Data pre-processing using python.
27th Jan 2021 (Day 6)	Mr. Sathish Singh	Introduction to deep learning
28th Jan 2021 (Day 7)	Mr. Sathish Singh	Understanding convolutional neural networks
29th Jan 2021 (Day 8)	Mr. Sathish Singh	Deploying CNN for classification of aerial images
30th Jan 2021 (Day 9)	Mr. Sathish Singh	Understanding object detection
31st Jan 2021 (Day 10)	Mr. Sathish Singh	Discussing recent trends in AI

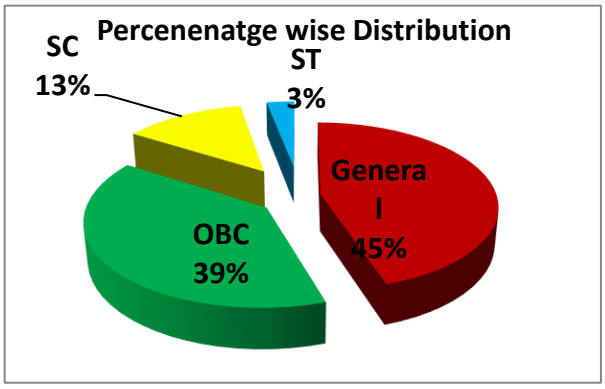
4. Discussion with Participants	This AI and Machine Learning certification course is ideal for working professionals with programming knowledge. It covers key concepts like statistics, machine learning, deep learning, NLP, and reinforcement learning. This program is delivered through our interactive learning model with live sessions by Cisko WebEx platform. Thank you for a great course of training conducted by NAHEP-CAAST-CSDA**.** During the program the participants were trained on advanced system administration options in fundamentals of artificial intelligence and machine learning**,** Great presentation style with lots of opportunities to

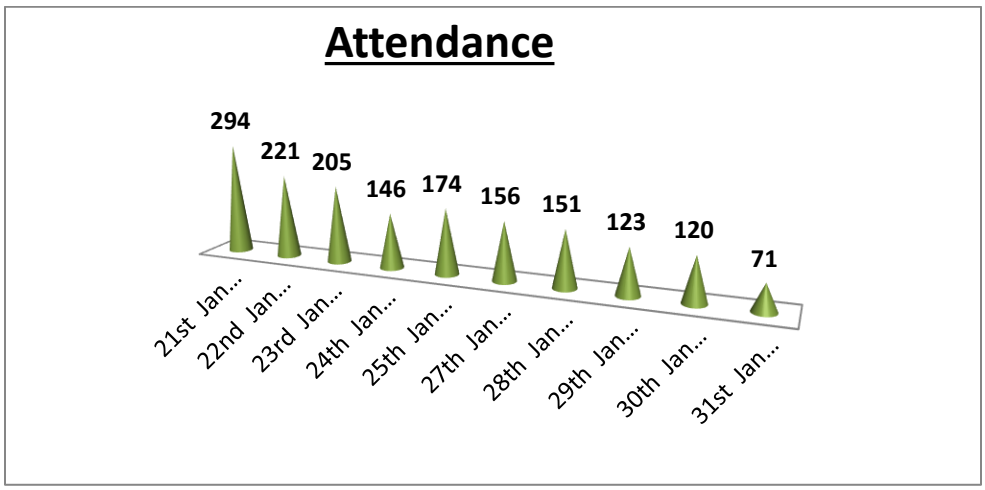
	ask questions and talk about artificial intelligence.
5. Impact of training	Three hundred forty-seven participants registered for in fundamentals of artificial intelligence and machine learning and out of these two hundred ninety-four students have attended on training on the subject. Total male participants were 255 and female participants were 92 and percentage of participants in different categories were UR- 45%, SC- 13%, ST- 3% and OBC- 39%. As per feedback received from participants, 72% respondent found AI & ML techniques interesting and learnt new things. 58% respondent rated training as excellent and 30% rated the good experience of the lecture topics.

Distribution of participants

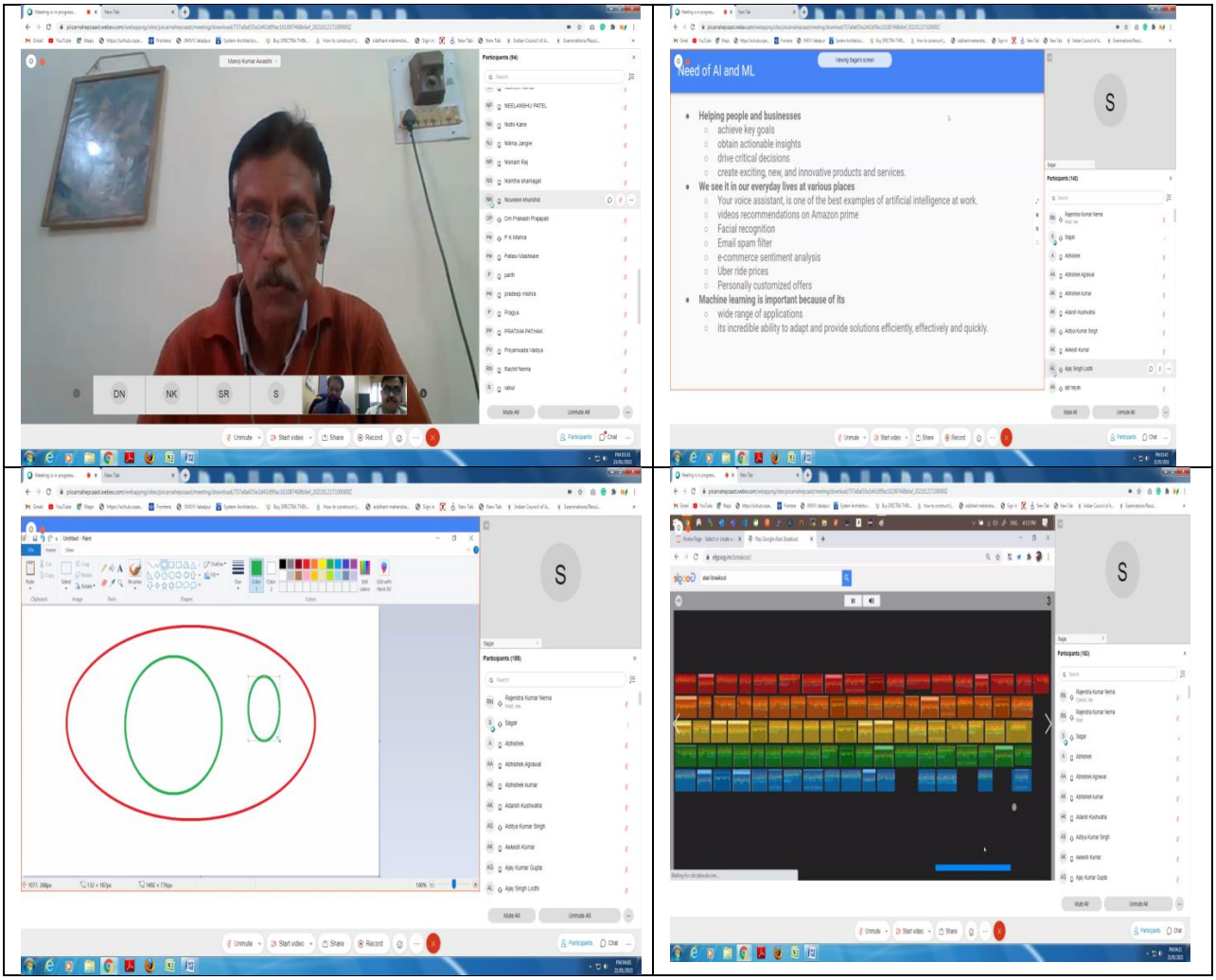
Category	General	OBC	SC	ST	Total	General	OBC	SC	ST
Male	113	113	23	06	**255**	44	44	9	2
Female	43	23	20	06	**92**	47	25	22	6
Total	**156**	**136**	**43**	**12**	**347**	**45**	**39**	**13**	**3**

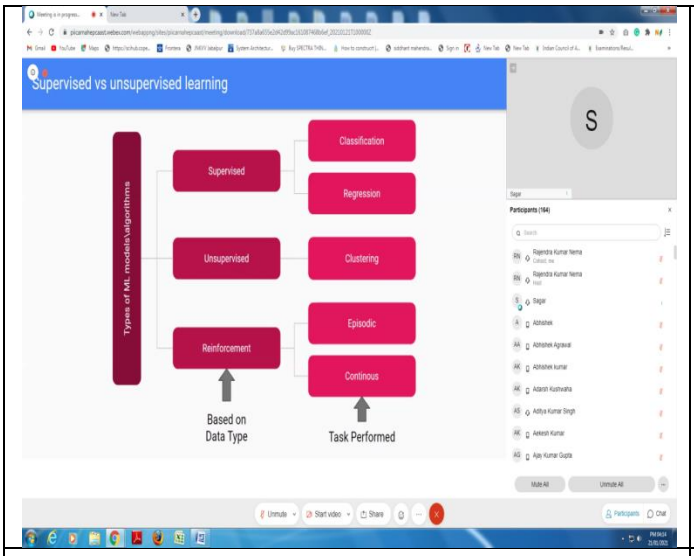


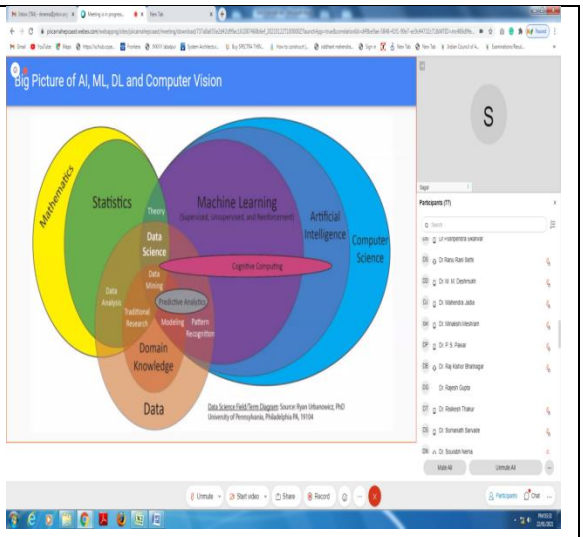


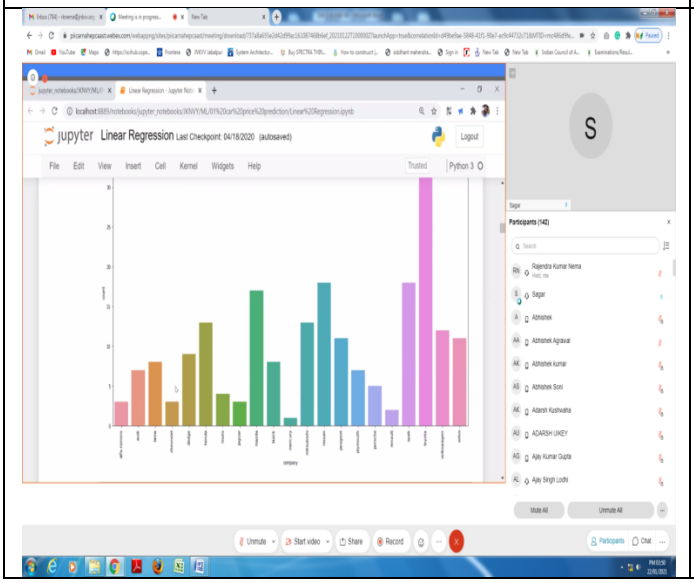


Date	Attendance
21st Jan 2021 (Day 1)	**294**
22nd Jan 2021 (Day 2)	**221**
23rd Jan 2021 (Day 3)	**205**
24th Jan 2021 (Day 4)	**146**
25th Jan 2021 (Day 5)	**174**
27th Jan 2021 (Day 6)	**156**
28th Jan 2021 (Day 7)	**151**
29th Jan 2021 (Day 8)	**123**
30th Jan 2021 (Day 9)	**120**
31st Jan 2021 (Day 10)	**71**




Supervised vs unsupervised learning
Types of ML models/algorithms
Supervised
Unsupervised
Reinforcement
Classification
Regression
Clustering
Episodic
Continous
Based on Data Type
Task Performed


Big Picture of AI, ML, DL and Computer Vision
Mathematics
Statistics
Machine Learning
Artificial Intelligence
Computer Science
Data Science
Cognitive Computing
Data Mining
Predictive Analytics
Traditional Research
Modeling
Pattern Recognition
Domain Knowledge
Data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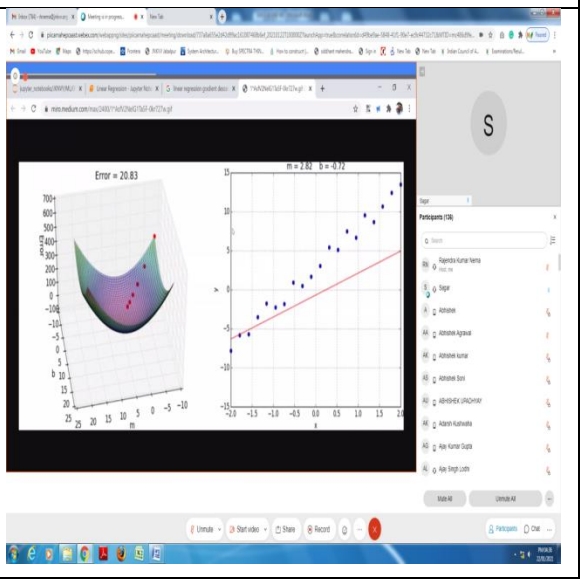
Logout
File Edit View Insert Cell Kernel Widgets Help
Trusted
Python 3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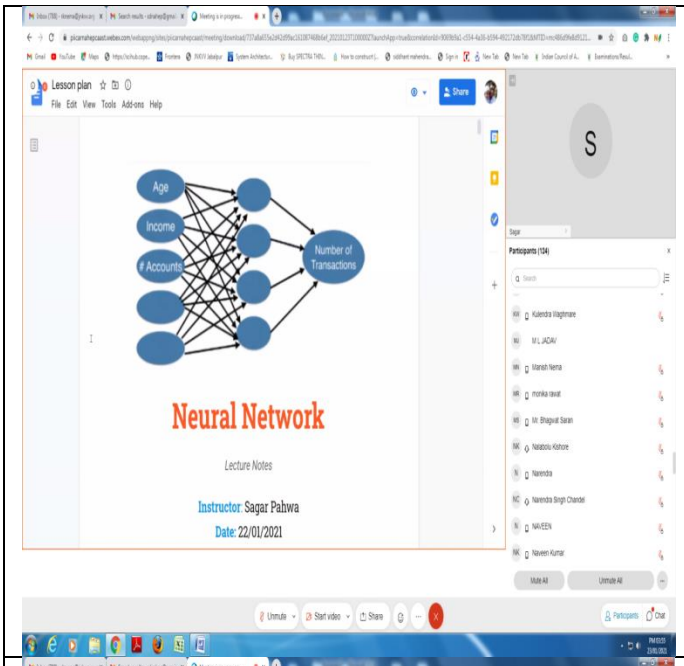
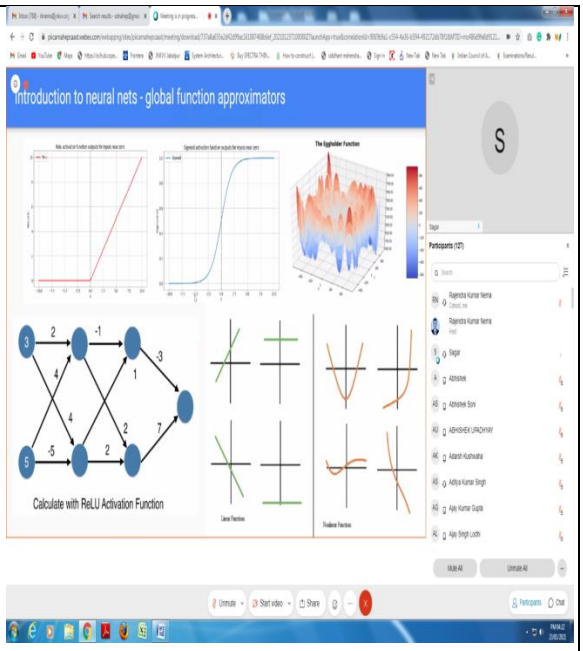
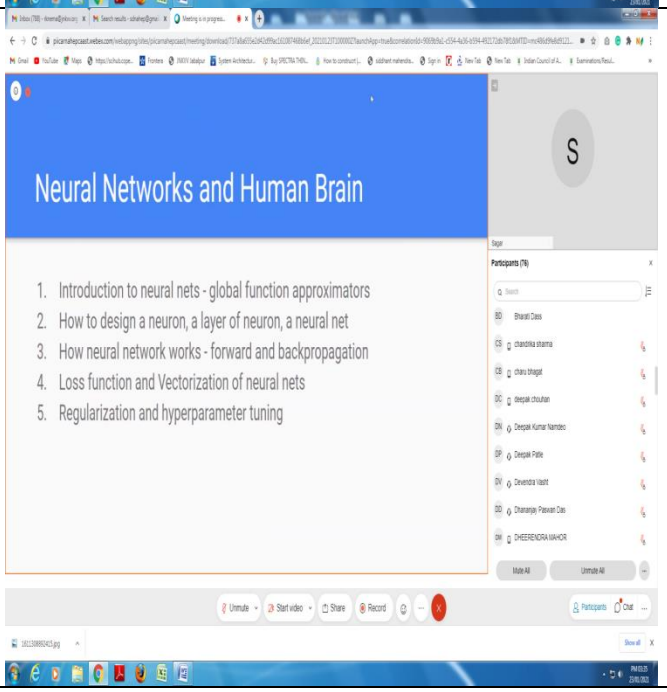
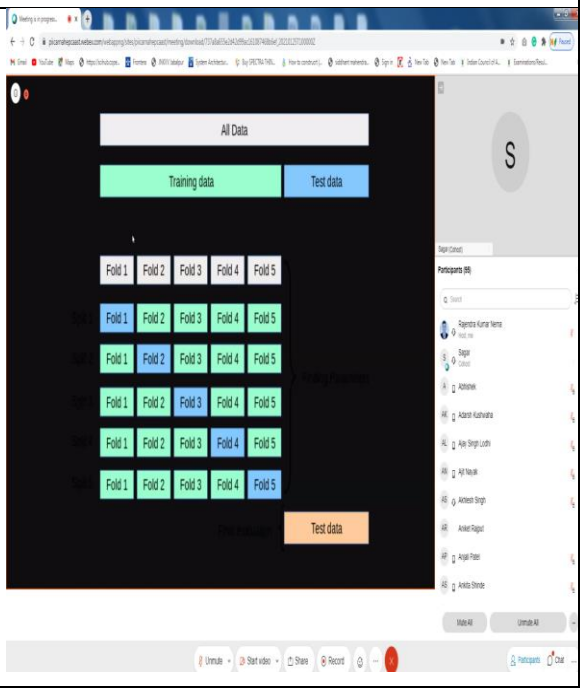
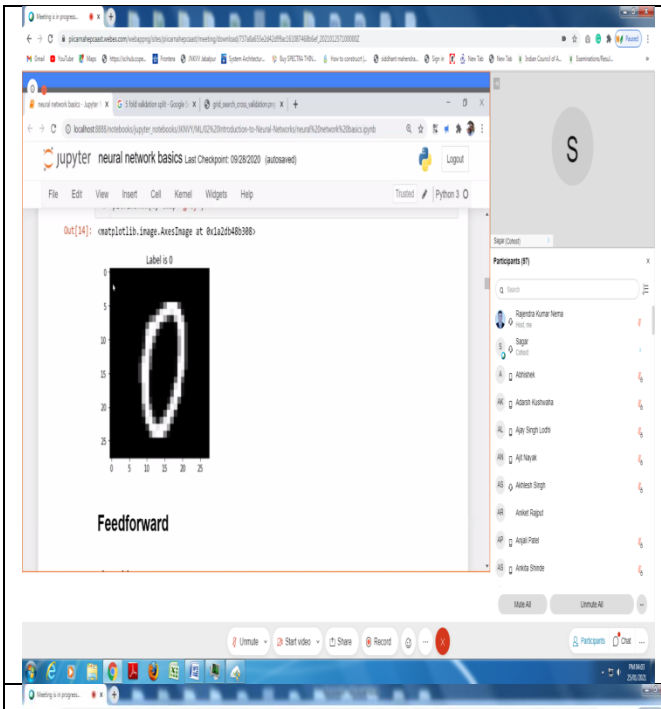

Lesson plan
File Edit View Tools Add-ons Help
Share
Age
Income
Accounts
Number of Transactions
Neural Network
Lecture Notes
Instructor: Sagar Pahwa
Date: 22/01/2021
Participants (104)


Introduction to neural nets - global function approximators
The Eggholder Function
Calculate with ReLU Activation Function
Participants (127)


Neural Networks and Human Brain
1. Introduction to neural nets - global function approximators
2. How to design a neuron, a layer of neuron, a neural net
3. How neural network works - forward and backpropagation
4. Loss function and Vectorization of neural nets
5. Regularization and hyperparameter tuning
Participants (79)


All Data
Training data
Test data
Fold 1
Fold 2
Fold 3
Fold 4
Fold 5
Test data
Participants (89)


jupyter neural network basics
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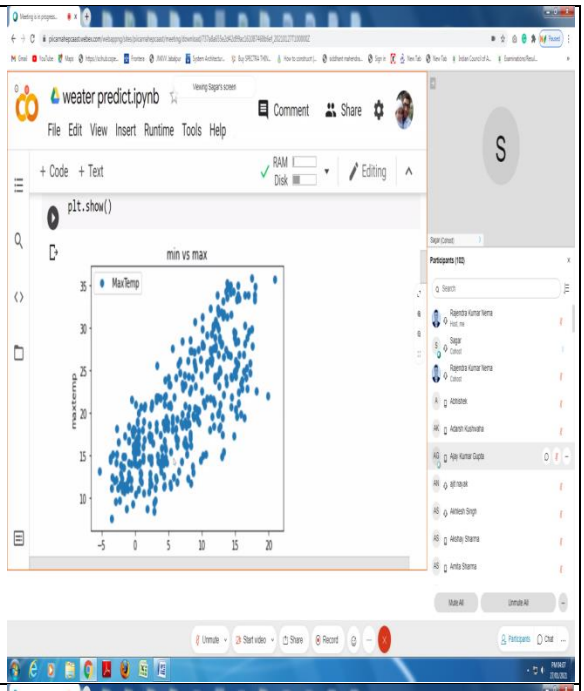
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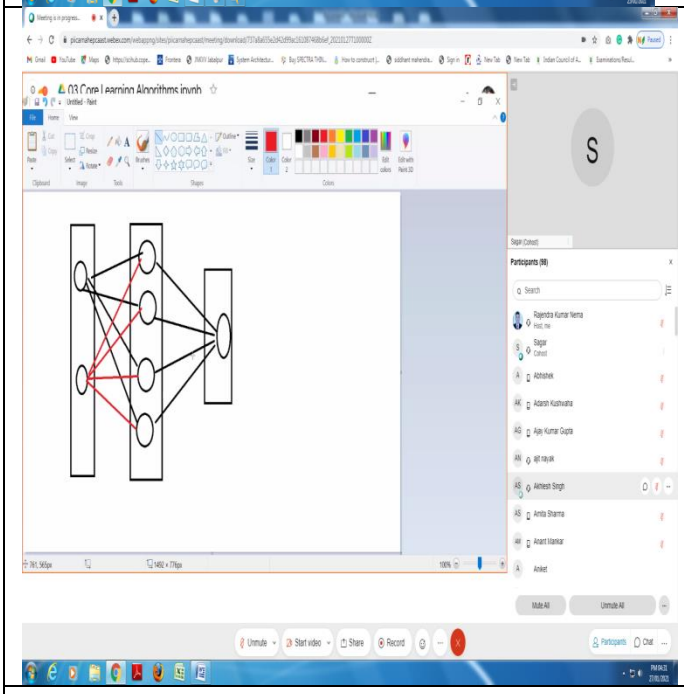
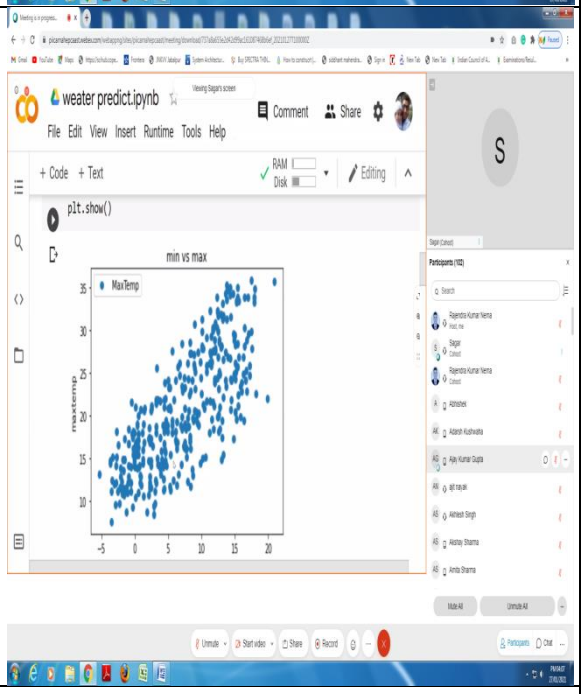

03 Core Learning Algorithms.ipynb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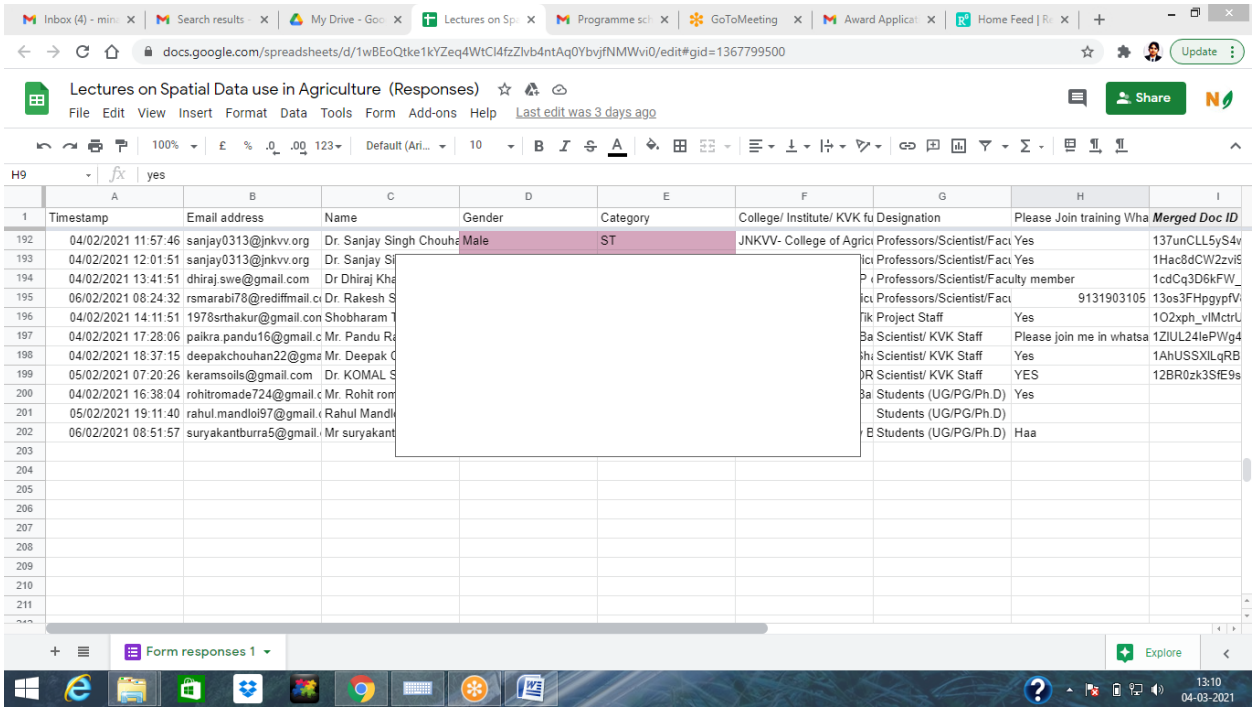
Lectures on Spatial Data use in Agriculture (Responses)
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05/02/2021 07:20:26 keramsoils@gmail.com Dr. KOMAL S Scientist/ KVK Staff YES 12BR0zk3SfE9s
04/02/2021 16:38:04 rohitromade724@gmail.c Mr. Rohit rom Students (UG/PG/Ph.D) Yes
05/02/2021 19:11:40 rahul.mandloi97@gmail.c Rahul Mandl Students (UG/PG/Ph.D)
06/02/2021 08:51:57 suryakantburra5@gmail.c Mr suryakant Students (UG/PG/Ph.D) Haa
Form responses 1
Explore
13:10
04-03-2021