



**Sardar Patel Institute of Technology**  
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India  
(Autonomous College Affiliated to University of Mumbai)  
**INFORMATION TECHNOLOGY DEPARTMENT**  
**SESSION-2020-21**

**INNOVATIVE TEACHING LEARNING REPORT**

**Course Name:** Machine Learning Lab (ITL64)

**Class:** T.E. I.T.

**Sem:** VI

**1. Live Demo of working of algorithms via Colab notebooks**

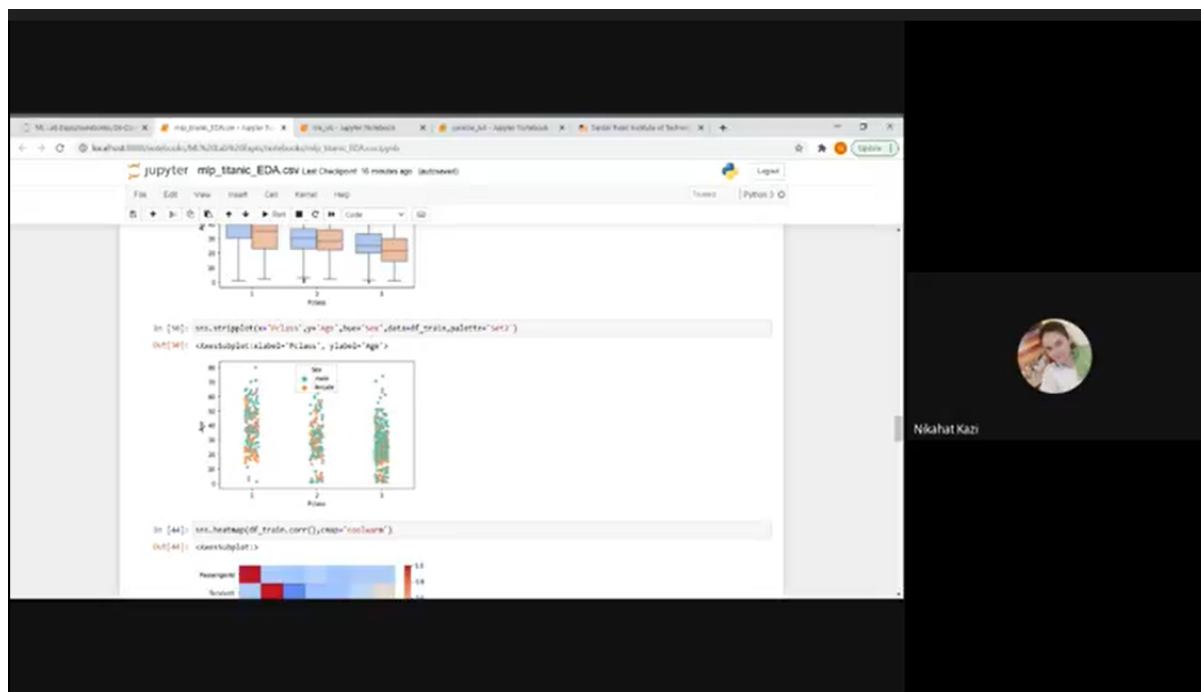
Topic: Data preparation

Method: Demo of the notebook for analysing data and data preparation

Lecture Link:

[https://drive.google.com/file/d/1lB2xhiW66dTr1DjIcPiocLXT4RNFj5wx/view?usp=drive\\_web&authuser=0](https://drive.google.com/file/d/1lB2xhiW66dTr1DjIcPiocLXT4RNFj5wx/view?usp=drive_web&authuser=0)

Proof:



## 2. Case study on Creative AI

Topic: Domain areas: Text analysis

Method: Complete case study on music generation using neural networks and genetic algorithms with

Lecture Link:

[https://drive.google.com/file/d/1-JQxoX0peNTrb1cJzleQy1Ty54-2bPFk/view?usp=drive\\_web&authuser=0](https://drive.google.com/file/d/1-JQxoX0peNTrb1cJzleQy1Ty54-2bPFk/view?usp=drive_web&authuser=0)

Proof:



Results of Musical Rules GA with population size 50

Sr. No.	Crossover Type	Mutation Type	No. of Generations	Minimum Fitness Achieved	Running Time (seconds)
1	One-point	Swap	5000	6	1321
		Scramble	5000	1	720
		Invert	5000	6	451
		Replace	5000	6	489
		Randomly Chosen	990	0	94
2	Two-point	Swap	5000	2	574
		Scramble	5000	3	1658
		Invert	5000	16	1840
		Replace	5000	3	1094
		Randomly Chosen	511	0	49
3	Uniform	Swap	5000	18	1468
		Scramble	5000	6	1884
		Invert	5000	8	999
		Replace	5000	6	931
		Randomly Chosen	2871	6	712
4	Randomly Chosen	Swap	1842	3	308
		Scramble	2371	2	434
		Invert	5000	1	934
		Replace	5000	3	1099
		Randomly Chosen	2752	0	508

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Nikahat Kazi