GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

Department of Computer Science and Engineering

Ref. No.: CSE/44/1772 Dated: 29/07/2024

NOTICE

A **"Value Added Course"** is being organized for B.Tech (CSE) students from 3rd August, 2024 onwards.

Details are as follows:

Title: **"Fair and Responsible AI"**

Session: Aug-Dec 2024

Mode: Online

Contents to be covered: Annexure Attached

Link for Registration: https://forms.gle/hdKx6rTc6SXQVdNh8

Expert: Mr. Shivam Gupta, IIT Ropar

For more information students may contact Prof. Palak Sood Assistant Professor, CSE Department.

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HOD (CSE)

CC: Department Website

Office Copy

Department Notice Board

Prof. Palak Sood

Fair and Responsible AI Course Layout

Duration: 1.5-hour Lecture per week
Instructor: Shivam Gupta, Ph.D. Research Scholar, IIT Ropar, Punjab, India.
https://web2geeks.in

Week	Topic	Lecture/ Lab
1	Introduction to Fair and Responsible AI	Lecture
2	Types of Biasses and Real-world Examples	Lecture
3	Supervised Learning: Demographic parity, Equalised Odds and Equal Opportunity	Lecture
4	Fairness in Unsupervised Learning	Lecture
5	Types of Fairness Levels	Lecture
6	Datasets for Fairness Benchmarking	Lab
7	Testing Unfairness in Traditional ML Methods	Lab
8	Fairness v/s Accuracy Trade-off	Lab
9	Methods to handle Group Fairness in Clustering Part 1	Lecture
10	Methods to handle Group Fairness in Clustering Part 2	Lecture
11	Overview of other Fairness Methods in Clustering	Lecture
12	Popularity Bias in Recommender Systems Part 1	Lecture
13	Popularity Bias in Recommender Systems Part 2	Lecture
14	Interpretability and Explainability in AI	Lecture
15	Counter Factual Explanations	Lecture
16	Privacy Preserving ML – Federated Learning	Lecture
17	Federated Clustering	Lecture
18	Machine Unlearning	Lecture

Table 1: Fair and Responsible AI week-wise course layout.