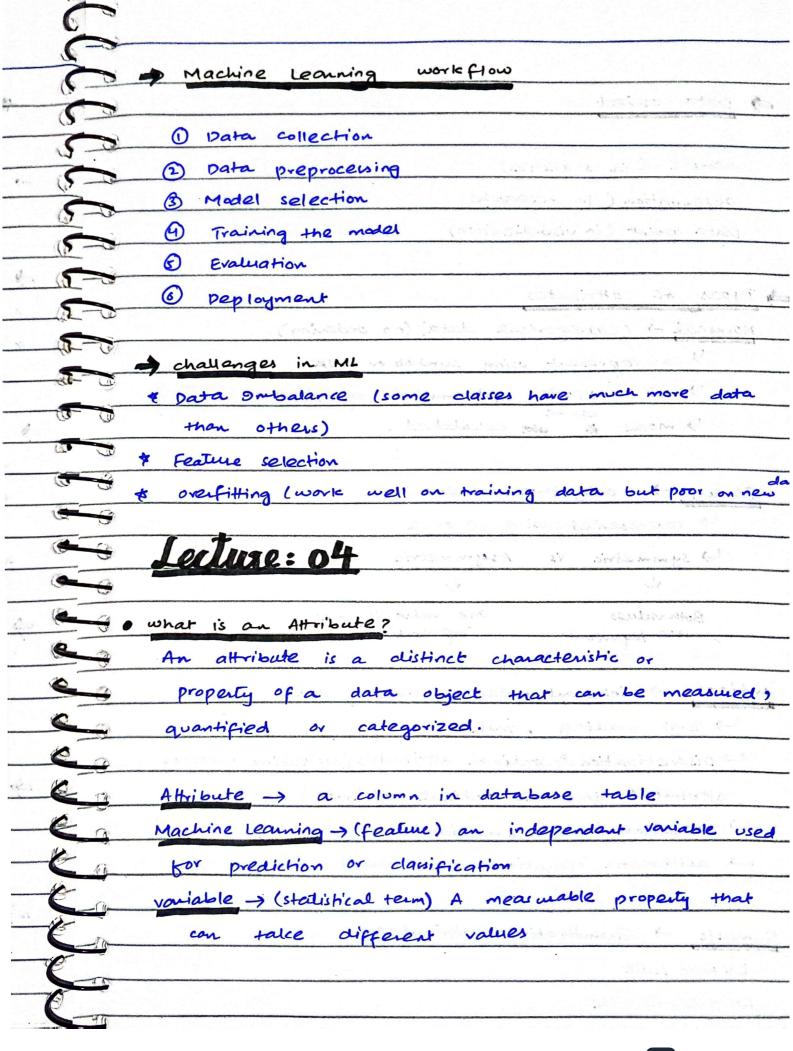
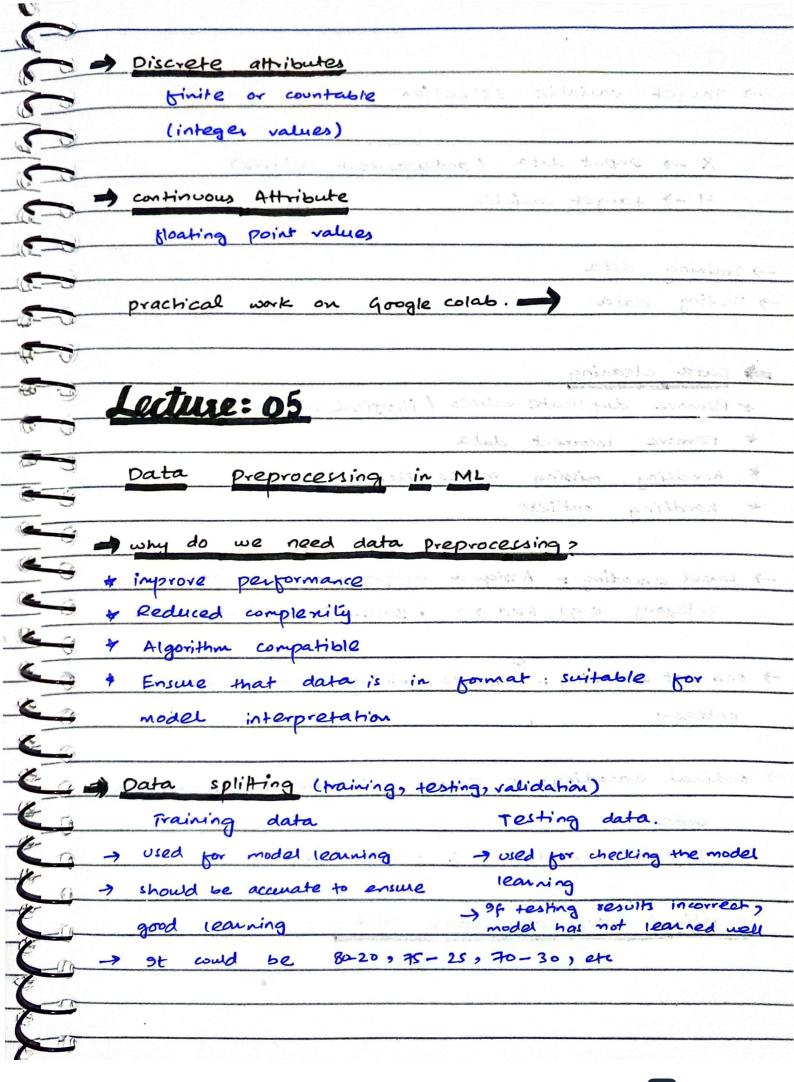
Lecture: 03 -> Supervised Learning uses labeled data with paired inputs and outputs · Regression | Types of supervised learning: · classification onsupervised Learning * no labeled data * model identify patterns and group similar data points Reinforcement learning * model (agent) interacts with an environment * Recieve peedback (reward or penalties) based on actions goal is to manimize rewards Applications of supervised Learning Span fittering - Audio to tent conversion Language translation - predicting ad clicks - Detecting vehicles using radar - peteching product defects Types of supervised learning: 1) classification (categorizing data into predefined labels) 2) Regression (predicting continuous values) Types of classification 1) Binary classification (two possible outcomes) 2) Multi-class classification (More than two outcomes)

Common Supervised Learning Algorithms KNN Logistic Regression SVM Logistic Regression Random forest Decision tree Applications of Unsupervised Learning clustering Dimensionality Reduction Anomaly Detection Common Algorithms of Unsupervised Learning K-Mean clustering DBSCAN Hi arachial clustering One-class SVM principal component Analysis (PCA) Common Algorithms of Reinforcement Learning Q-Learning SARSA Deep Q-Network policy Gradient Methods Actor critic Method Markor Decision process		
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Types of attributes	
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-> Target variable selection	
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y → tanget variable	<u> </u>
- Training data	
-> resting data	
Pata cleaning Remove duplicate values / illosical values	
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* remove incorrect data	
* handling missing values etc. * + handling outliers	
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-> Label encoding :- Assign a unique number to each	
category (e-g) Red >0, Blue >1, pink >2	
-) one-not ancoding :- creates binary column for each	u.
category	
- ordinal encoding: - H encode categories by mean	ning tre
order	
Low 30, mediam 31, high 32.	
	24 - 20 - Feb.
practical work on google colab	7