



MACHINE LEARNING

SOLUTION TO MOST COMMON PROBLEMS IN ML



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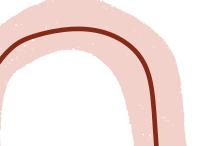








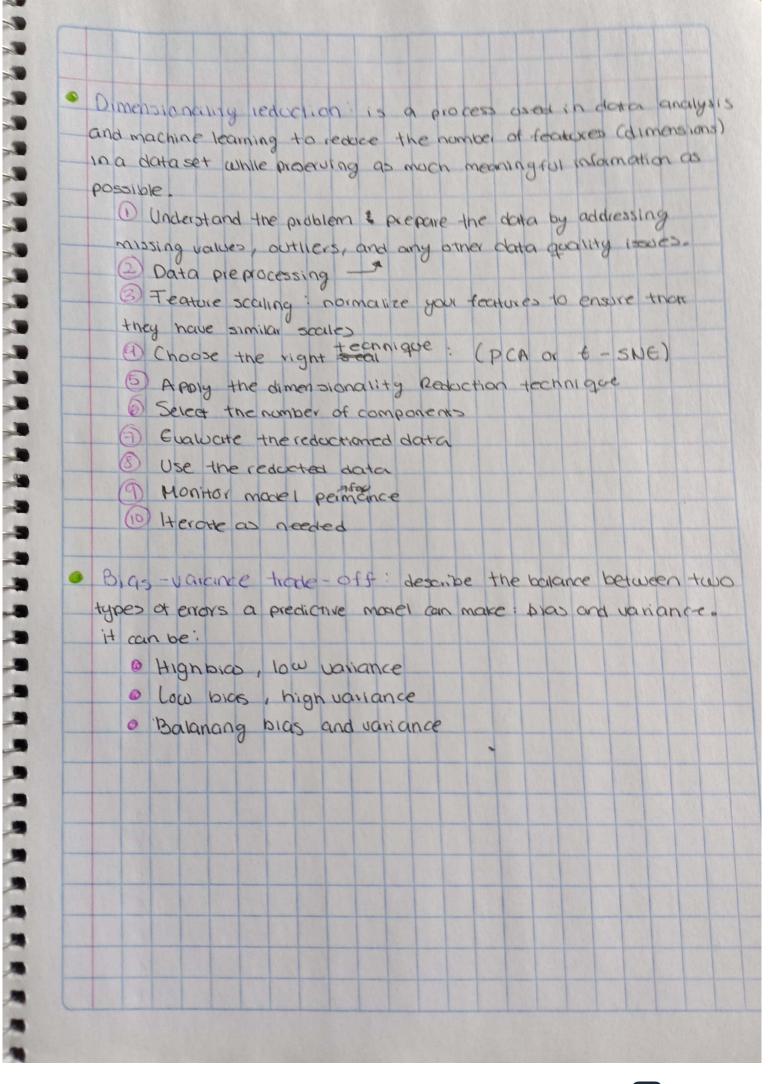




15/09/2023 Overfiting: occors when the machine leaving program learns the training data too well, to the point that it aptores noise, random fluctuations, or outliers in the data, rottles than the underlying partiens. As a result, an overfiting matel performs very well on training data but poorly on unseen data because it has essentially memorized the training examples instead of learning the true underlying relationships. Signs of it: · Low training error (the mode I fits the training data very closely) High varidation or test error (poor performance on new darks) The model's predictions are too sensitive to small changes in the input data. · Underfiting : occas when a machine learning model is too simple to capture the underlying patterns in the training dotta. It fails to bear the relationships between the features and the target variable, resulting on poor personnance on both the training data and new data. It lacks of the capacity to represent the complexity of the data. Signs of it: High training error (the model connot even fit training dotta) High validation or test error or the mode's predictions do not capture the time portiens In the data. Outliers: data points that significantly devicate from the majority of the data in a dataset. Some of its key characteristics · Extreme values O Unusual or rare Impact on summary statistics (affect summary statistics) U isucul identification (are often vi sually) a Onta errors (can sometimes be the coult of data) o Influence on models Domain knowledge (to be soie when is an activer or when should be tracked as an error

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Com	non solutions for them	14/13/14
	Aver Cit na	
	· Regular ration - (regular zation to penalize lang m	oders and
	(coss-validation (use techniques like K-fold cross	- validati
	@ Reduce mater comprexity.	ductas
	Early stopping (training dates and stop weren person	degrade)
	@ Ensemble methods	-g.ce,
		6
0	Underfiting	1
	to Increase model complexity	
	* Feature engineering ladd more relevant features	
	· Collect more delta sex	
	Hyper parameter toning	
	· Ensemble methods	
0	Presence of outliers	
	o transformations (log-transformations or winson't	ation)
	· Robust models (use moders that are less sensitive to	s outliers
	@ Imputation	N.
	Data Cleaning	
	Contextual understanding	
	correction discussioning	
0	ensionality poolem it happens when dealing	Centh
SECTION AND ADDRESS.	dimentional data sets or feature spaces. It en compass	IN COMPANY TO SERVICE AND ADDRESS.
	s 15500, shere is an overview of the dimensionality provi	
	50 S B B B B B B B B B B B B B B B B B B	Sien
	Increased computational complexity	
	Data sparsity	
	Increased risk of overfitting	
	Difficulty in visualization	
0	loss of intuition	
		1 0



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Issues in Machine Learning. (n.d.). Www.javatpoint.com. Retrieved September 15, 2023, from https://www.javatpoint.com/issues-in-machine-learning