Hyperparameter Optimization/Tuning

Machine learning involves predicting and classifying data and to do so, you employ various machine learning models according to the dataset.

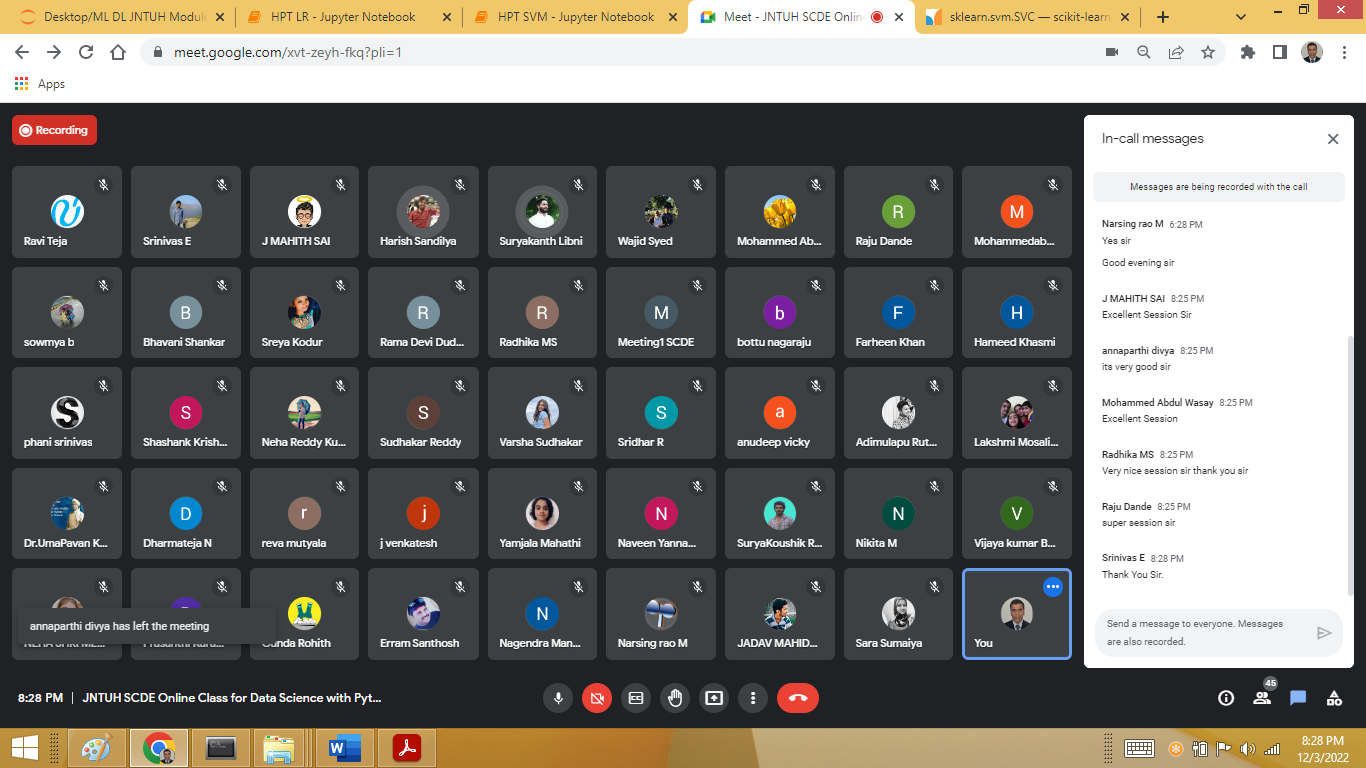
Machine learning models are parameterized so that their behavior can be tuned for a given problem.

Some examples of model parameters include:

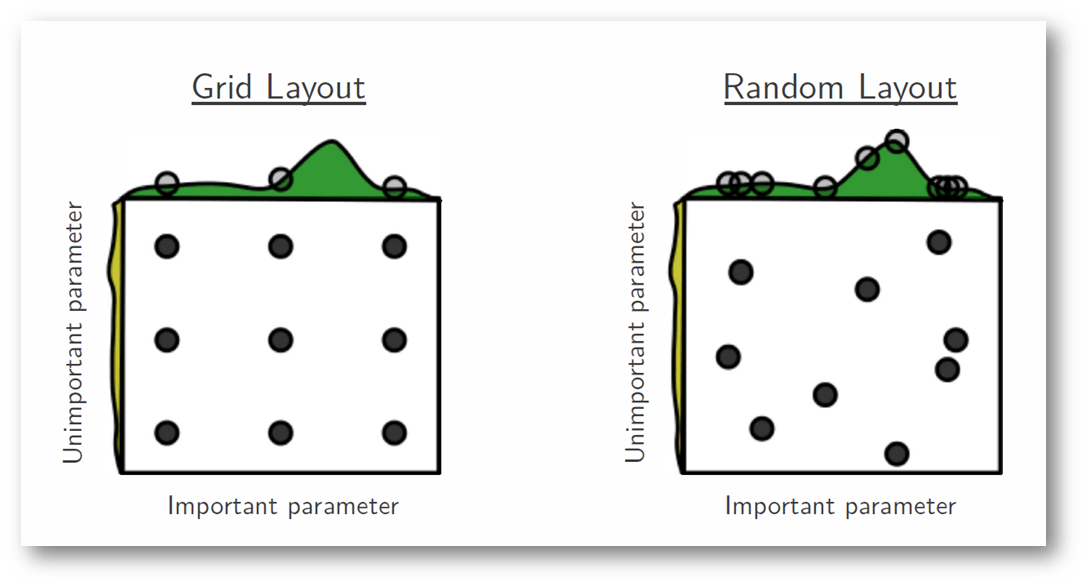
* The weights in an artificial neural network.
* The support vectors in a support vector machine.
* The coefficients in a linear regression or logistic regression.

**Two simple strategies to optimize/tune the Hyperparameters:**

* There are many hyperparameter optimization/tuning algorithms. two simple strategies: 1. grid search and 2. Random Search.

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Grid search is an approach to hyperparameter tuning that will methodically build and evaluate a model for each combination of algorithm parameters specified in a grid.

[](http://www.jmlr.org/papers/volume13/bergstra12a/bergstra12a.pdf)

Hyperparameter tuning is a final step in the process of applied machine learning before presenting results.