

IBM Series 3 Workshop- “Machine Learning Using Python” 10th Sep 20

The session started with a brief introduction about Machine Learning. He then continued with the types of Machine Learning wherein he discussed Supervised, Unsupervised and Reinforcement learning. Under supervised learning he discussed two types i.e, regression and classification which was then followed by the discussion about Unsupervised learning wherein he spoke about Clustering and Dimensionality reduction and then he spoke about reinforcement learning with some practical examples. The speaker further spoke about the steps involved in machine learning using a pictorial format wherein he spoke about the road map of building machine learning. Then he spoke about how companies like amazon use machine learning to sell their products and give offers on their products which was followed by major machine learning techniques. Then he spoke about various modules of python which are used for machine learning. This continued with what is regression and then he explained the regression model with an example which was followed by types of regression models with its applications and algorithms. He further spoke about linear regression topology and how it works. Then he showed a graphical representation of the above model. Then he showed how to use jupyter notebooks on Anaconda navigator and showed examples of linear regressions on it. At last he concluded the session by showing K-fold cross validation.

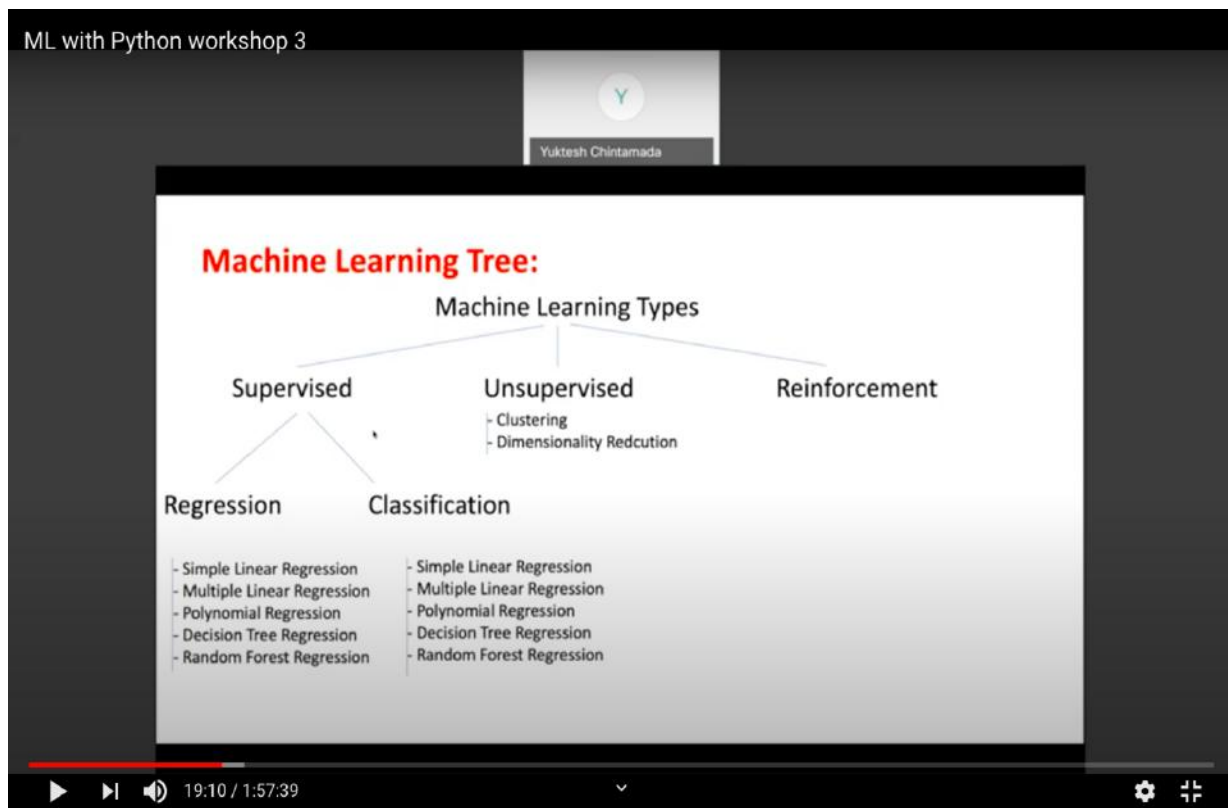


Photo-1: Machine Learning Tree

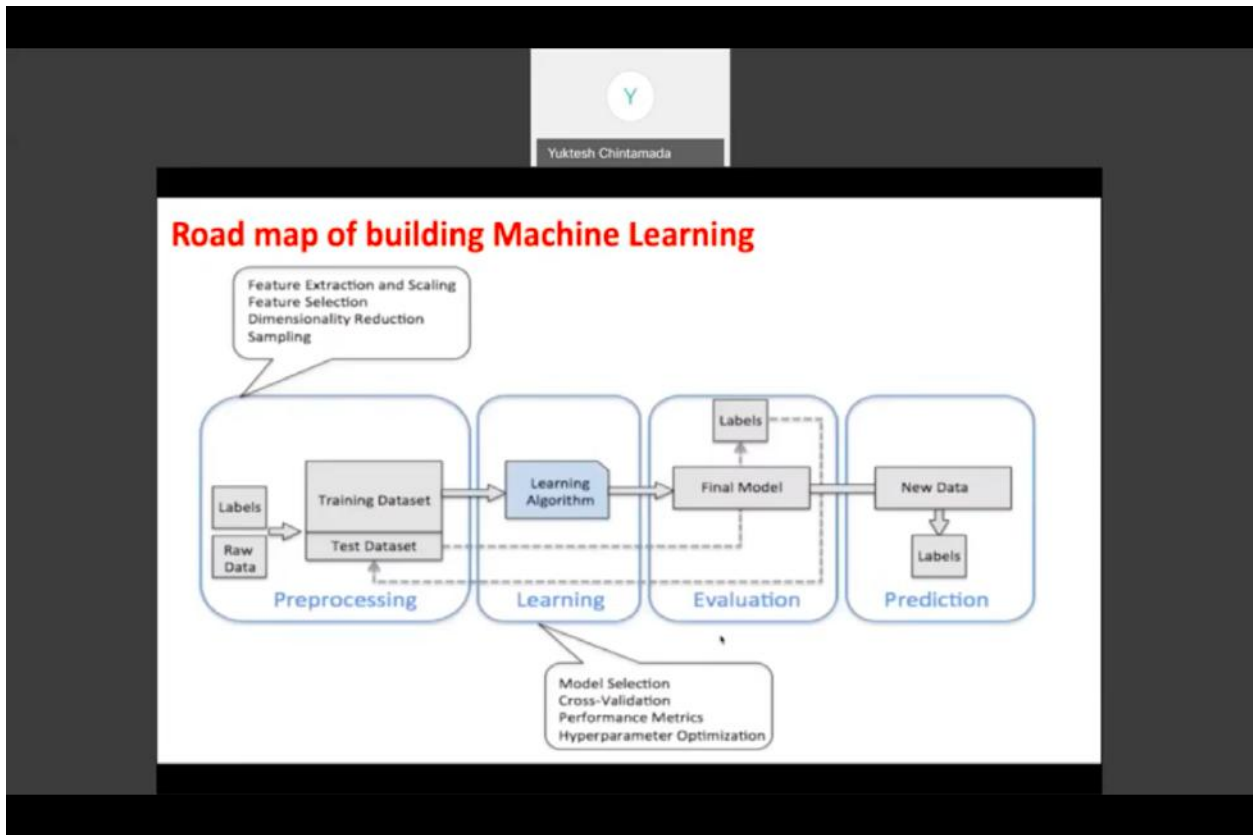


Photo-2: Speaker describing the road map of building Machine Learning

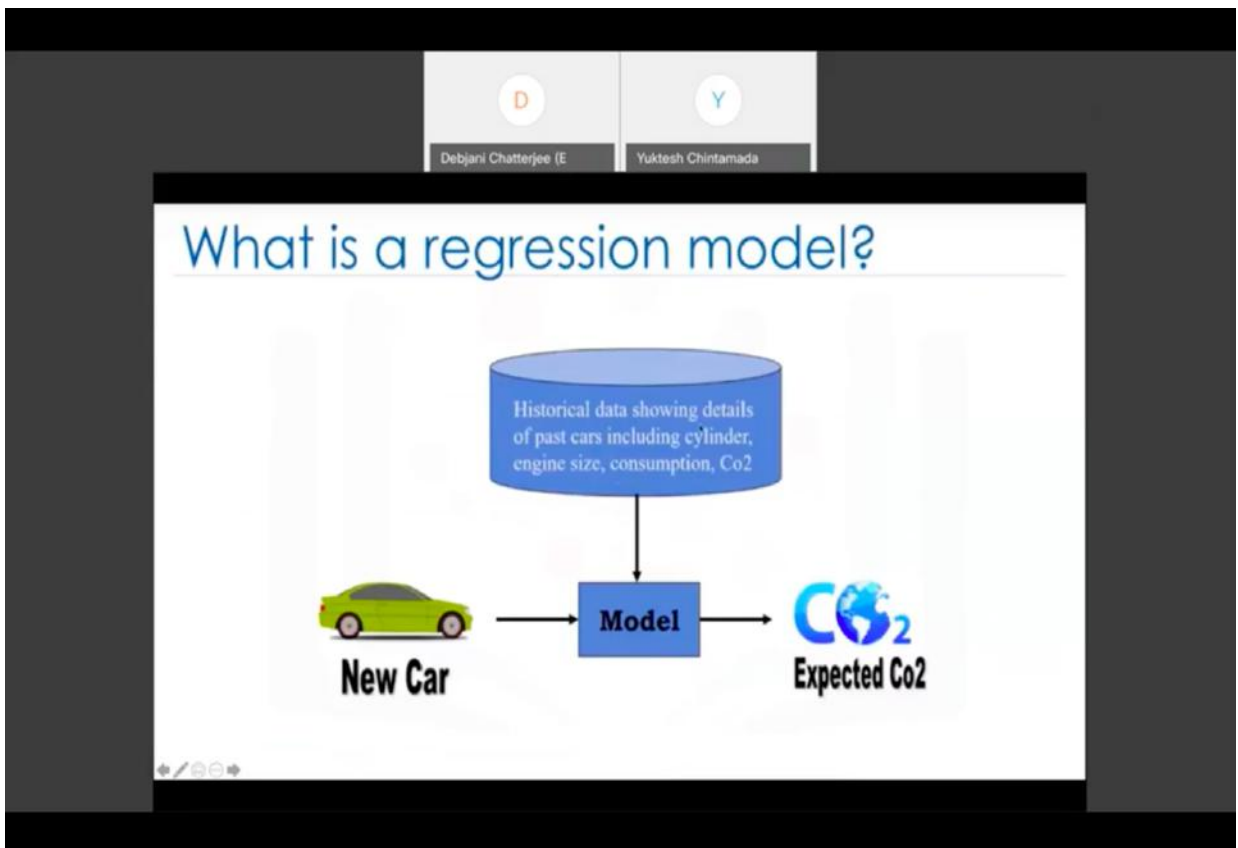


Photo-3: Speaker explaining what is a regression model

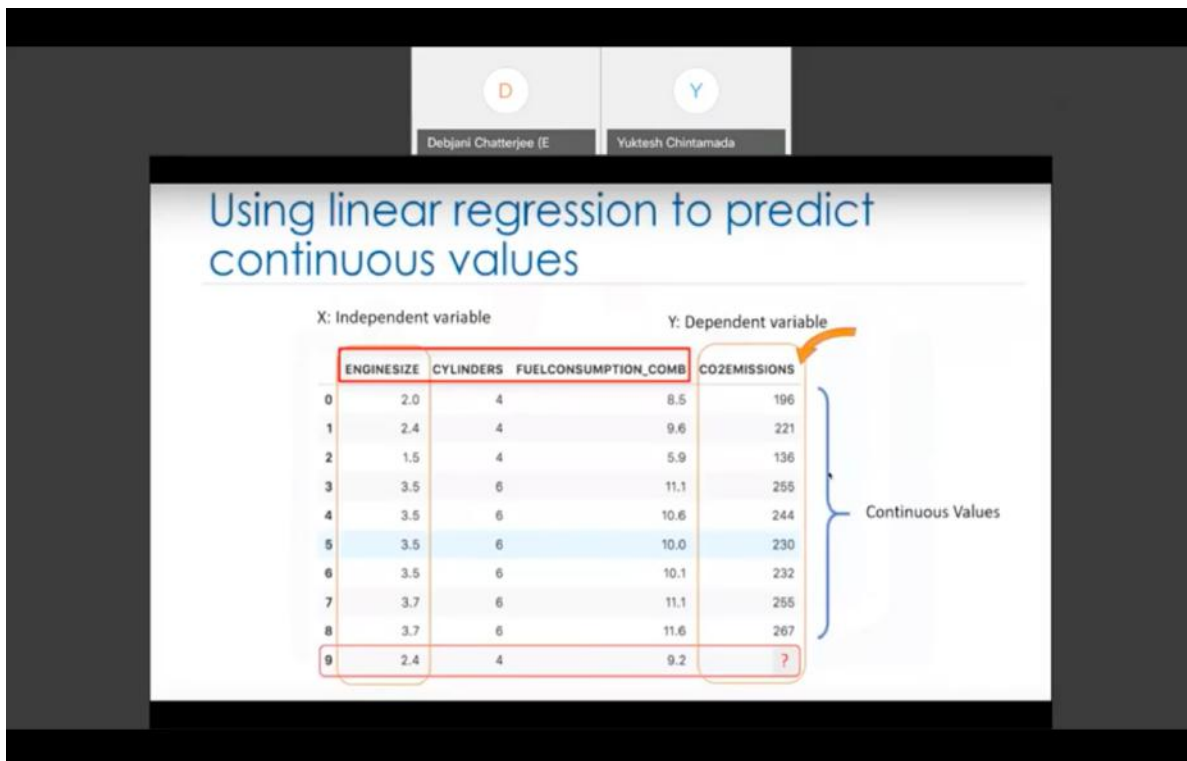


Photo-4: Speaker examples of using linear regression to make predictions

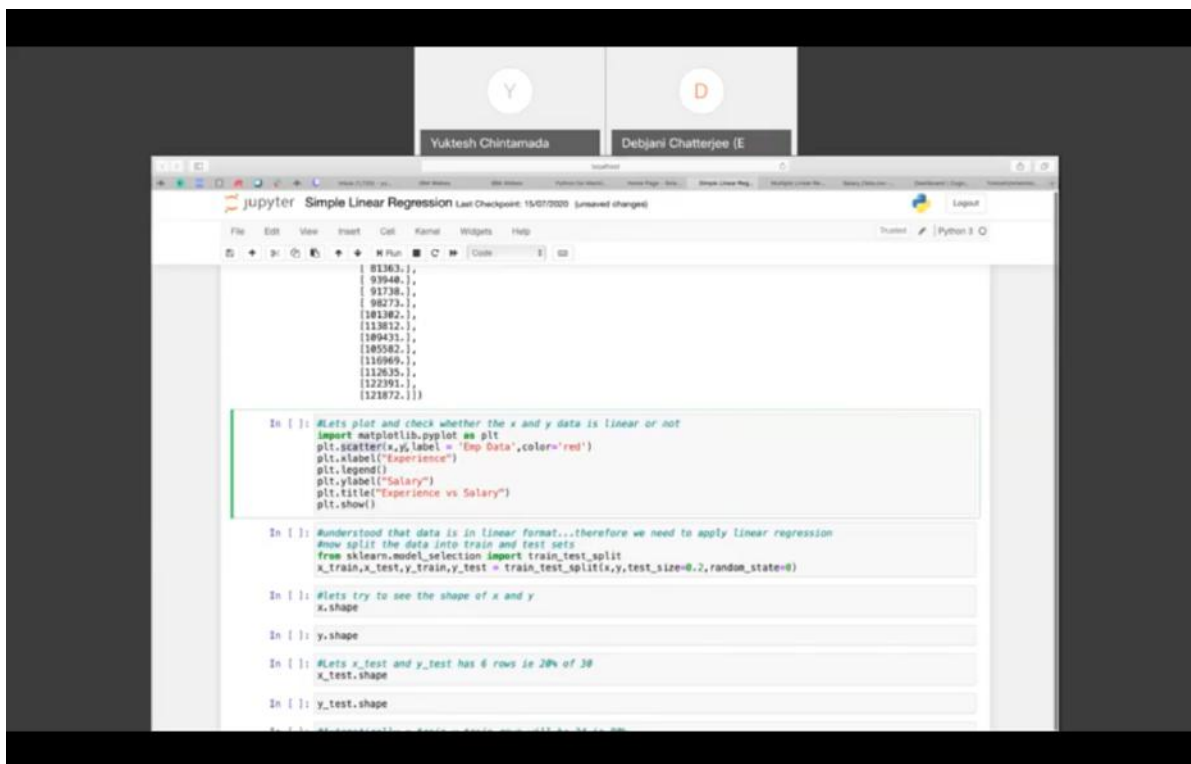
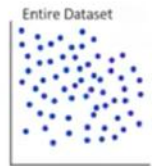


Photo-05: Speaker showing examples of Simple linear regression on Jupyter Notebooks

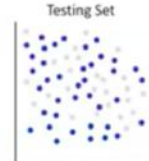
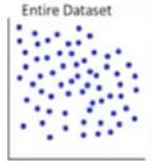
Train/Test split evaluation approach

Test on a portion of train set



- Test-set is a portion of the train-set
- High "training accuracy"
- Low "out-of-sample accuracy"

Train/Test Split



- Mutually exclusive
- More accurate evaluation on out-of-sample accuracy
- Highly dependent on which datasets the data is trained and tested

Photo-6: Speaker explaining Train split evaluation