<https://github.com/coding-blocks-archives/machine-learning-online-2018>

# **Day 1**

* Prerequisite
  + Download Anaconda
    - Original link : <https://www.anaconda.com/products/individual>
    - <https://www.youtube.com/watch?v=5mDYijMfSzs>
    - Ubuntu <https://www.youtube.com/watch?v=DY0DB_NwEu0>
  + Revise some Python Stuff
    - Free code camp <https://www.youtube.com/watch?v=rfscVS0vtbw>
* Class Presentations
  + ….. will be done
* Class video
  + …..
* Class codes
  + Github Link
* Quiz
* Home work
* Resources
  + Same is prerequisites

# **Day 2**

* Prerequisite
  + Download Anaconda
    - Original link : <https://www.anaconda.com/products/individual>
    - <https://www.youtube.com/watch?v=5mDYijMfSzs>
    - Ubuntu <https://www.youtube.com/watch?v=DY0DB_NwEu0>
  + Revise some Python Stuff
    - Free code camp <https://www.youtube.com/watch?v=rfscVS0vtbw>
* Class Presentations
  + Machine Learning Algorithm
    - Pandas
    - Numpy
    - Matplotlib
* Class video
  + …..
* Class codes
  + Github Link
* Quiz
* Home work
* Resources
  + Same is prerequisites

# **Day 3**

* ML Pipeline
  + The training set, Testing Set and validation test
  + Splitting the data
  + Bias Variance Trade-Offs
  + Cross validation
* Titanic Data Preprocessing Go Through

Resource for data-preprocessing

* Educative ….
* Kaggle microcources
* Datacamp
* Medium Preprocessing
  + <https://towardsdatascience.com/feature-engineering-for-machine-learning-3a5e293a5114>

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# **Day 4**

Type to ML

* Supervised
* Unsupervised

Data-sets must be put on dropbox and must be standardised

* + KNN
    - Scratch ---
      * Sklearn
        + MNIST
        + Titanic
        + Face detection and recognition
      * KNN basic theory and intuition
      * Underfitting and overfitting
      * Time complexity analysis
    - <https://medium.com/machinelearningalgorithms/k-nearest-neighbors-c9823dca611b>
    - DBscan stateoftheart - moon dataset
  + Kmean
    - Dominant Color extraction

# **Day 5**

* Linear regression
  + Blog
  + From scratch
  + Boston house prediction dataset
  + Stock price
  + 3-D contour

# **Day 6**

* SVM
  + Dog cat classification
  + Hypertuning
  + Analysis
* Decision tree
  + Titanic

# **Day 7**

* Ensemble
  + Begging - random forest
  + Boosting
    - Adaboosting
    - XGboosting
    - Catboosting
  + Hypertuning
  + Evaluation matrix

# **Day 8**

* Neural Network -- intuition
* ANN - keras
* Project --
  + MNIST
  + Fashion MNIST

# **Day 9 [computer vision basics]**

* CNN
  + Emotion recogniser
* Transfer learning
  + Human , cat , dog horse classifier

# **Day 10 [NLP - text part ]**

* RNN
* Project
  + Sentiment analysis
* Resources
  + Image captioning

# **Home Work**

* + **All algorithm to a titanic dataset**

**a) Regression Problems**

* + - **How much did it rain:-** [**https://www.kaggle.com/c/how-much-did-it-rain-ii/overview**](https://www.kaggle.com/c/how-much-did-it-rain-ii/overview)
    - **Inventory Demand:-** [**https://www.kaggle.com/c/grupo-bimbo-inventory-demand**](https://www.kaggle.com/c/grupo-bimbo-inventory-demand)
    - **Property Inspection prediction:-** [**https://www.kaggle.com/c/liberty-mutual-group-property-inspection-prediction**](https://www.kaggle.com/c/liberty-mutual-group-property-inspection-prediction)
    - **Restaurant Revenue prediction:-** [**https://www.kaggle.com/c/restaurant-revenue-prediction/data**](https://www.kaggle.com/c/restaurant-revenue-prediction/data)
    - **IMDB Box office Prediction:-**[**https://www.kaggle.com/c/tmdb-box-office-prediction/overview**](https://www.kaggle.com/c/tmdb-box-office-prediction/overview)

**b) Classification problems**

* + - **Employee Access challenge :-** [**https://www.kaggle.com/c/amazon-employee-access-challenge/overview**](https://www.kaggle.com/c/amazon-employee-access-challenge/overview)
    - **Titanic :-** [**https://www.kaggle.com/c/titanic**](https://www.kaggle.com/c/titanic)
    - **San Francisco crime:-** [**https://www.kaggle.com/c/sf-crime**](https://www.kaggle.com/c/sf-crime)
    - **Customer satisfcation:-**[**https://www.kaggle.com/c/santander-customer-satisfaction**](https://www.kaggle.com/c/santander-customer-satisfaction)
    - **Trip type classification:-** [**https://www.kaggle.com/c/walmart-recruiting-trip-type-classification**](https://www.kaggle.com/c/walmart-recruiting-trip-type-classification)
    - **Categorize cusine:-** [**https://www.kaggle.com/c/whats-cooking**](https://www.kaggle.com/c/whats-cooking)

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