Links to Resources

Google Colab

Github

Machine Learning 2019

Section 2: Setting up Environment

Section 3: Regression

Section 4: Classification

Section 5: Support Vector Machine

Section 6: Tree

Section 7: Ensemble Models

Section 8: k-Nearest Neighbor

Section 9: Unsupervised Machine Learning - Dimensionality Reduction

Section 10: Unsupervised Machine Learning - Clustering

Deep Learning 2019

ANN

CNN

Appendix A1: Foundations of Deep Learning

Appendix A2: Foundations of CNN

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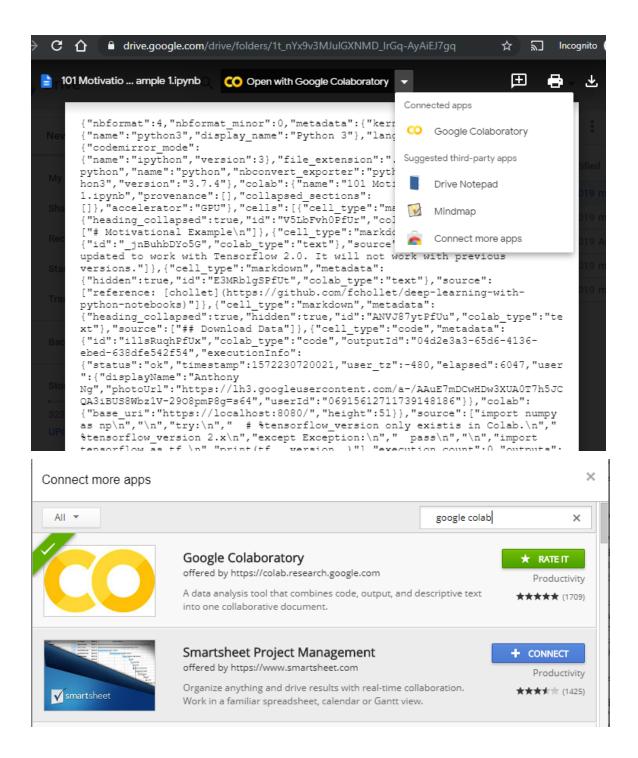
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Google Colab

A note on opening Google Colab files, you may need to install the app.



Github

<u>Link to GitHub</u> for all the notebooks for Machine Learning section. These notebooks can be used for running on your local machine.

Machine Learning 2019

These are the links to the notebooks for Machine Learning section. These notebooks can be run via google colab. This is especially useful for training large and complex algorithms such as tree based models.

https://drive.google.com/drive/folders/1_iM2khZYFwQfxuHWC1kAdW4SrNgbKNow?usp=sharing

Section 2: Setting up Environment

Installing Anaconda to your local Machine

Jupyter Notebook, lab and environment management

Hello World

Iris Project

Section 3: Regression

Boston Housing Price Prediction

Multiple Regression

Regularized Regression

Polynomial Regression

Nonlinear Relationships

Data Pre-Processing

Variance-Bias Tradeoff

Cross Validation

Section 4: Classification

Logistic Regression

Classification with MNIST

Section 5: Support Vector Machine

Support Vector Machine

Section 6: Tree

Decision Tree

Project HR

Section 7: Ensemble Models

Introduction

Bagging Machine Learning Algorithm

Random Forest and Extra Trees

AdaBoost and Gradient Boosting Machine

XGBoost Installation Instruction

XGBoost

Project HR

Ensemble of Ensembles 1

Ensemble of Ensembles 2

Section 8: k-Nearest Neighbor

Introduction

Project Cancer Detection

Section 9: Unsupervised Machine Learning - Dimensionality Reduction

Dimensionality Reduction

PCA - Linear

Project Wine

Kernel PCA

Linear Discriminant Analysis (LDA)

Project Abalone

Section 10: Unsupervised Machine Learning - Clustering

Clustering

Deep Learning 2019

https://drive.google.com/open?id=1pxZW8fqSqOp5_yqUhyAL5Mt7dEV_M_GD

ANN

Simple Function

Motivational Example 1 with MNIST dataset

Binary Classification 1 with MNIST dataset

Binary Classification 2 with IMDB dataset

Regression with Boston Housing dataset

ANN Resources - DOCX and PDF

CNN

CNN Motivational Example with MNIST dataset

CNN with dogs and cats (subset) dataset

Transfer Learning

CNN Resources - PDF and EXCEL

Appendix A1: Foundations of Deep Learning

https://drive.google.com/open?id=1t nYx9v3MJuIGXNMD IrGq-AyAiEJ7gq

Motivational Example

Binary Classification Example 1

Binary Classification Example 2

Multi-Class Example

Regression Example

Appendix A2: Foundations of CNN

https://drive.google.com/open?id=1mD8PrNhJViHItJN-hOilJk4HgzZBxL3H

Cats and Dogs

Cats and Dogs - Loading Previously Trained Model

Cats and Dogs - Data Augmentation

Data Augmentation

Transfer Learning with VGG16

Features Extraction with VGG16

Transfer Learning with ResNet50