



AfricanAI  
Foundation

Command Prompt : |

ChatGPT



# About the Tutor (Me)

## Education:



**Bachelors**  
Obafemi Awolowo  
University (OAU)  
Electrical and  
Electronic  
Engineering



**Masters**  
Tennessee  
Technological  
University (TTU)  
Electrical and  
Computer  
Engineering



**Doctorate (Ph.D.)**  
Tennessee  
Technological  
University (TTU)  
Electrical and  
Computer  
Engineering

## Specialization:

- Deployment of machine learning algorithms on resource constrained devices
- Machine learning explainability and security

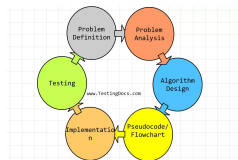
## Experience:



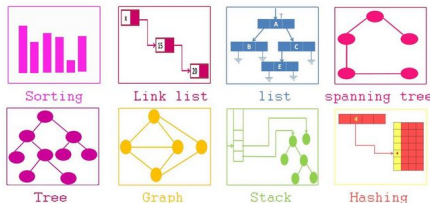
# Prerequisite Packages/Libraries/Knowledge



Python  
programming Language



Algorithms



Data Structures



Exploratory Data Analysis

Machine Learning  
Training and Testing

# Prerequisite Resources

kaggle

<https://www.javatpoint.com/how-to-get-datasets-for-machine-learning>

Data

colab

Development

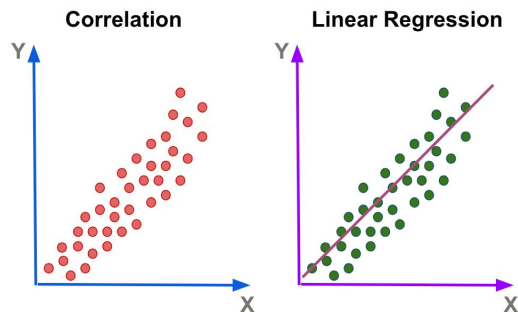


**Hugging Face**

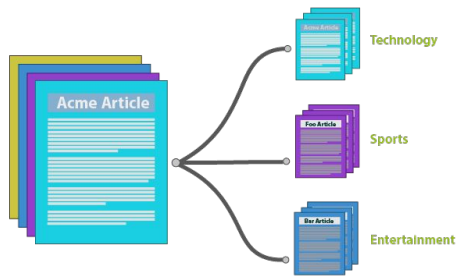
<https://stats.stackexchange.com/questions/327068/where-to-find-pre-trained-models-for-transfer-learning#:~:text=Many%20pretrained%20models%20for%20various,pretrained%20models%20themselves%2C%20e.g.%20ResNeXt.>

Models

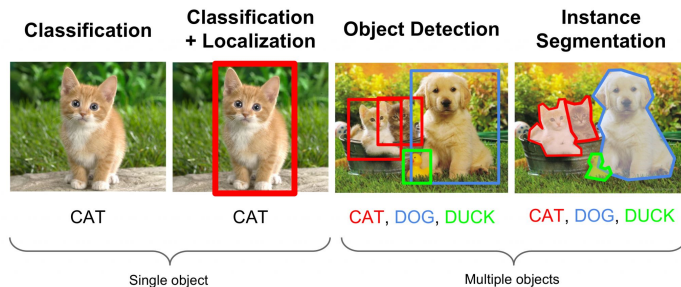
# About the Class: The Flow



Regression

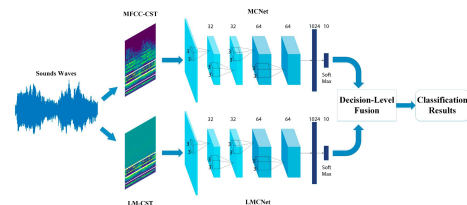


Text Classification

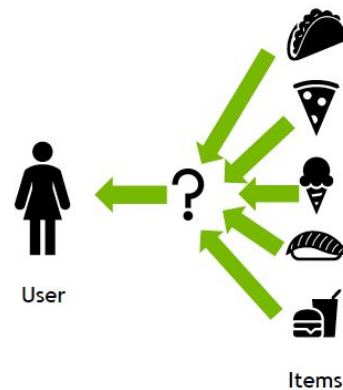


Computer Vision:  
Image classification, Object detection,  
Image Segmentation

and so on  
... if time permits



Audio Classification



Recommender Systems

# Lets Wet Our Appetite: The Possibilities

[https://www.linkedin.com/jobs/search/?currentJobId=3656649961&f\\_E=2&f\\_WT=2&keywords=machine%20learning%20engineer](https://www.linkedin.com/jobs/search/?currentJobId=3656649961&f_E=2&f_WT=2&keywords=machine%20learning%20engineer)

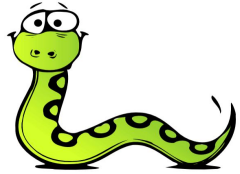
[https://www.google.com/search?q=google+jobs+machine+learning+engineer+remote&sca\\_esv=557804163&rlz=1C5GCEM\\_enUS1020US1020&sxsrf=AB5stBiAYiEM5RHKSsn5FysDCGYNEzlcm7Q:1692295658729&ei=6mHeZPqGLLSrqtSP1KOUyAs&uact=5&oq=google+jobs+machine+learning+engineer+remote&gs\\_lp=Egxn3Mtd2l6LXNlcnAaAhgClixnb29nbGUgam9icyBtYWNNoaW5lIGxIYXJuaW5nIGVuZ2luZWVyIHJlbW90ZTIFECEYoaAEyBRAhGKsCSNc3UIMBWN82cAF4AZABAJgBeaABhA-qAQQxMC45uAEDyAEA-AEBwgITEAAYRxjWBBiwAxiLAXioAximA8ICChAAGEcY1gQYsAPCAgoQABiKBRIwAxhDwgINEAAYigUYsAMYQxiLA8ICCxAAGIAEGLEDGIMBwgIFEAAyqATCAggQABiABBixA8ICChAAGloFGLEDGEPCAgcQABiKBRhDwgIKEAAyqAQYFBiHAsICCBAAGloFGJECwgIGEAAyFhgewgIIEAAYigUYhgPCAggQIRgWGB4YHeIDBBgAIEGIBgGQBgo&sclient=gws-wiz-serp&ibp=htl;jobs&sa=X&ved=2ahUKEwjm5vTRpOSA-AxWfCTQIHQ4yDW8QutcGKAF6BAgTEAY#htivrt=jobs&htidocid=Prkh9WGuYpMAAAAAAAAAAAAA%3D%3D&fpstate=tldetail](https://www.google.com/search?q=google+jobs+machine+learning+engineer+remote&sca_esv=557804163&rlz=1C5GCEM_enUS1020US1020&sxsrf=AB5stBiAYiEM5RHKSsn5FysDCGYNEzlcm7Q:1692295658729&ei=6mHeZPqGLLSrqtSP1KOUyAs&uact=5&oq=google+jobs+machine+learning+engineer+remote&gs_lp=Egxn3Mtd2l6LXNlcnAaAhgClixnb29nbGUgam9icyBtYWNNoaW5lIGxIYXJuaW5nIGVuZ2luZWVyIHJlbW90ZTIFECEYoaAEyBRAhGKsCSNc3UIMBWN82cAF4AZABAJgBeaABhA-qAQQxMC45uAEDyAEA-AEBwgITEAAYRxjWBBiwAxiLAXioAximA8ICChAAGEcY1gQYsAPCAgoQABiKBRIwAxhDwgINEAAYigUYsAMYQxiLA8ICCxAAGIAEGLEDGIMBwgIFEAAyqATCAggQABiABBixA8ICChAAGloFGLEDGEPCAgcQABiKBRhDwgIKEAAyqAQYFBiHAsICCBAAGloFGJECwgIGEAAyFhgewgIIEAAYigUYhgPCAggQIRgWGB4YHeIDBBgAIEGIBgGQBgo&sclient=gws-wiz-serp&ibp=htl;jobs&sa=X&ved=2ahUKEwjm5vTRpOSA-AxWfCTQIHQ4yDW8QutcGKAF6BAgTEAY#htivrt=jobs&htidocid=Prkh9WGuYpMAAAAAAAAAAAAA%3D%3D&fpstate=tldetail)

**Before We Start  
(Pep-Talk: Motivational )**



# What is Python

A snake?





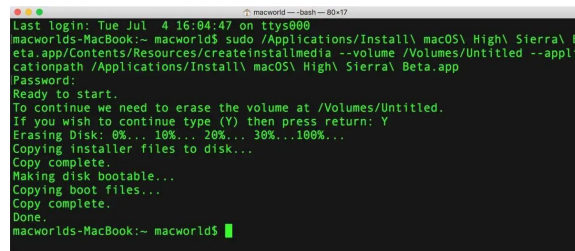
# Commands for Installation



```
!pip install numpy
!pip install pandas
!pip install pandas-profiling
(for Auto EDA)
```



Has pre-installed libraries  
Has Auto EDA  
!pip install numpy  
!pip install pandas

A screenshot of a macOS terminal window showing the installation of a custom macOS version. The user runs 'sudo /Applications/Install\ macOS\ High\ Sierra\ Beta.app/Contents/Resources/createinstallmedia --volume /Volumes/Untitled --applicationpath /Applications/Install\ macOS\ High\ Sierra\ Beta.app'. The terminal shows the process of erasing the disk, copying installer files, and making the disk bootable. The final prompt is 'macworlds-MacBook:~ macworld\$'.

```
pip install numpy
pip install pandas
```

With Windows you will need to first install Python/Anaconda environment

**Resources: PyPi, Stack Overflow, Google, Bard, ChatGPT etc**

# What is Python

Python is a computer programming language often used to build websites and software, automate tasks, and conduct data analysis. Python is a general-purpose language, meaning it can be used to create a variety of different programs and isn't specialized for any specific problems

10 mins Python Run Through:

[https://colab.research.google.com/drive/1WSqTTccSQ7-PoCix32V\\_xd-gtk3DdOEy?usp=sharing](https://colab.research.google.com/drive/1WSqTTccSQ7-PoCix32V_xd-gtk3DdOEy?usp=sharing)

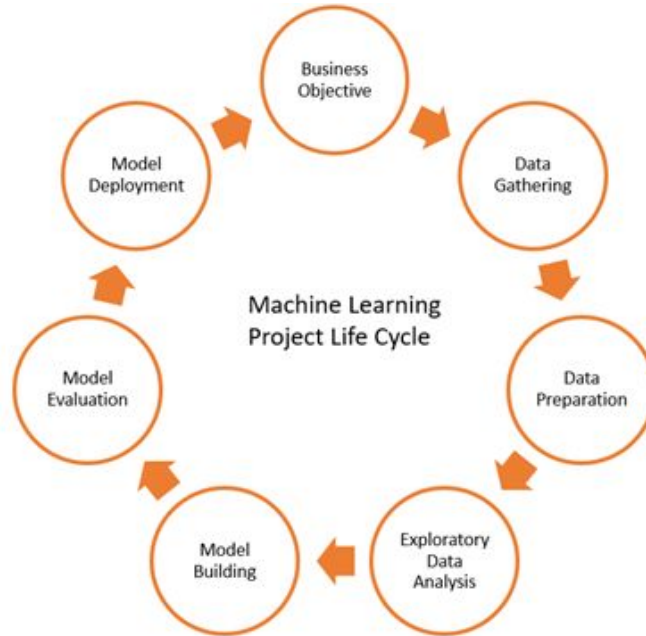
# Some Exploratory Data Analysis Using Pandas

Exploratory Data Analysis (EDA) is an approach to analyzing data sets to identify patterns, outliers, and other unexpected features. EDA is often used to extract features and trends for machine learning and deep learning models.

10 mins Pandas Run Through:

[https://colab.research.google.com/drive/1sdbJ0jSrf\\_TnATCKjrdB8d\\_IAaVBXpRJ?usp=sharing](https://colab.research.google.com/drive/1sdbJ0jSrf_TnATCKjrdB8d_IAaVBXpRJ?usp=sharing)

# Machine Learning



# Applied Machine Learning with SKlearn



Sklearn Classifiers:

[https://colab.research.google.com/drive/1vBnOWfJK61pxA93w7e\\_tR7HopGcQ72oD?usp=sharing](https://colab.research.google.com/drive/1vBnOWfJK61pxA93w7e_tR7HopGcQ72oD?usp=sharing)

# Applied Machine Learning with SKlearn



Case Study: <https://www.kaggle.com/datasets/uciml/red-wine-quality-cortez-et-al-2009>

Colab:

[https://colab.research.google.com/drive/12YwW8\\_fJsH6v4GI5uOACmOiMyy-hF22m?usp=sharing](https://colab.research.google.com/drive/12YwW8_fJsH6v4GI5uOACmOiMyy-hF22m?usp=sharing)