

WEEKLY PROGRESS REPORT

WEEK 1: MACHINE LEARNING

Name: Salehe Salehe Said

RegNo: T/UDOM/2016/07028

INTRODUCTION TO MACHINE LEARNING

Machine learning is the subfield of computer science that apply algorithms to the data to produce a solution to the problem.

Types of Data in Machine learning

- Structured (Tabular) data
- Unstructured data
 - Text
 - Pictures
 - Video
 - Audio

Applications machine learning

- Text classification
- Natural Language processing
- Computer Vision
- Medical diagnosis
- Games
- Recommendation software
- Speech recognition systems

Types of machine learning

- Supervised Learning
- Unsupervised Learning
- Reinforcement

Supervised Learning: Model trained with examples and tested with new data to give desired output.

Unsupervised Learning: Model learn from inputs with no outputs.

Reinforcement Learning: Model perceive the state of environment as a vector of features then execute action in every state.

- It uses policy learning
- Policy is a function that takes the features hectors of the state and output an optional action to execute that state.

Machine learning with Python

Why Python?

- It combines the power of general-purpose programming languages with the ease of use of domain-specific scripting languages like MATLAB or R. Python has libraries for data loading, visualization, statistics, natural language processing, image processing, and more.
- Ability to interact directly with the code, using a terminal or other tool like the Jupyter Notebook.