

1 Week Deep Learning Using Medical Data Course Content

❖ DATA SCIENCE

- Introduction to Data Science
- Use of data science in Artificial Intelligence & Machine Learning

❖ PYTHON FOR DATA ANALYSIS-NUMPY

- Introduction to Numpy
- Numpy Arrays
- Quick Note on Array Indexing
- Numpy Array Indexing and Operations
- Array Operart

❖ PANDAS

- Introduction to Pandas
- Pandas operation

❖ INTRODUCTION TO DATA VISUALIZATION LIBRARIES

- Introduction of Matplotlib
- Creating Graphs- Bar Chart, Pie, Line chart, Histogram, Scatter Plot

❖ MACHINE LEARNING

- Introduction to Machine Learning
- Supervised Learning Introduction & Examples
- Unsupervised Learning Introduction & Examples

❖ INTRODUCTION TO ARTIFICIAL INTELLIGENCE

- Artificial Intelligence: Introduction
- Typical Applications,
- Artificial Neural Networks (ANNs) : Concept
- Activation Functions
- Feed Forward Neural Networks
- Back Propagation

❖ INTRODUCTION TO CONVOLUTIONAL NEURAL NETWORK (CNN)

- Introduction to CNN
- Working of CNN
- Convolutional Layer
- Pooling
- Flatten
- Image recognition techniques and feature Extraction fundamentals

Projects –

1. Data Manipulation using Numpy and Pandas
2. Data Visualization on Different Graphs
3. Simple Neural Network from Scratch
4. Breast Cancer Prediction Using ANN
5. Diabetes Prediction Using ANN
6. COVID Detection Using Chest Xray Data Set Using CNN