Two Days Workshop on Artificial Intelligence

Artificial Intelligence, It's a behaviour of machines which is apparently intelligent. It is also known as study of intelligent agents: any device that perceives its environment and takes actions that maximize its chance of success at some goal. "Learning" & "Problem solving" are the capability of an artificially intelligent machines. The whole study related to Artificial intelligence concern about the beneficiary and safety features of the system associated. While developing an algorithm for AI the risk management is mandatory. With our AI workshop program one can easily get a kick start in this particular field of technology.

Prerequisites: -

Can access computer system and make use of internet to perform search over Google.

Need to Prepare?

Basic Knowledge of Matrices and Vector. Prior programming experience is not required.

Tools Expected: -

Windows OS based PC, Smart phone with Internet, Notebook and Pen

Tools Provided (for the session): -

MATLAB

Concepts: -

Fuzzy logic, Supervised and Unsupervised learning, Database Mining, Neural Network, Model representation

Summary: -

This workshop will be give an overview of many concepts, techniques, and algorithms in machine learning, beginning with topics such as classification and linear regression and ending up with more recent topics such as working with neural network, network training and adaptive training etc.

Project:-

- Case Study: Cancer Detection
- Case Study: Character Recognition
- Case Study: Iris Clustering

Commitment: -

2 Days (7 hours each including 1-hour lunch break)

Agenda: -

Day 1

Session 1- (03:30 hrs)

Introduction to AI

- Working with Fuzzy logic Algorithm
- Getting started woth Fuzzy Logic in MATLAB
- Problem Formulation, Defuzzification & Rulebase
- Working with Fuzzy Logic ion SImulink
- Introduction to Machine Learning
- Applications of Machine Learning
- Artificial Intelligence & Machine Learning
- Database Mining & Machine Learning

Session 2- (02:30 hrs)

Different forms of learning

- Supervised Learning Introduction & Examples
- Unsupervised Learning Introduction & Examples
- Linear Regression & implementation
- Introduction to Gradient Descent Algorithm
- Linear Algebra review

Session Recap

Day 2

Session 1- (03:30 hrs)

Neural Network

- Introduction to Neuron
- Introduction to Network Architecture
- Designing Neural Network Model
- Model Representation Methods
- Single Layer Neural Network
- Multilayer Neural Network Architecture
- Training the Network
- Backward Propagation Training
- Using the Network
- Importing & Exporting Network
- Importing & Exporting Training Data
- Introduction to Dynamic Neural Network
- Neural Network Blocks in simulink

Session 2- (02:30 hrs)

Genetic Algorithm

- Working with Genetic Algorithm
- Getting started with Genetic Algorithm
- Implementing GA with MATLAB
- Examples and applications
- Case Study: Cancer Detection
- Case Study: Character Recognition
- Case Study: Iris Clustering

Session Recap

Zonal Round of SkillThon

- Competition
- Certificate distribution and acknowledgement

Associated Partners for Certification & Training