



DISCOUNTS ARE AVAILABLE

PRACTICAL ARTIFICIAL INTELLIGENCE MACHINES & DEEP LEARNING

**COURSE FEE
RS: 19,200/-**

SAT-SUN CLASSES

**START FROM
13-JUL-2024**

(DURATION 24HR)



Scan For Registration

INTRODUCTION:

Artificial Intelligence (AI) is an ensemble of various technologies that empowers computers to understand, act, and learn. AI techniques are being increasingly deployed in a variety of different applications related to military, business intelligence, finance, biomedical engineering, cyber security, etc. This has become possible primarily due to advancement in machine learning and deep learning technologies enabling researchers and product developers to solve extremely complex problems with impressive outcomes. Machine learning and deep learning technologies enable computing devices to respond to external inputs without explicitly hardcoding the rules as to how the device should react for a specific event.

The aim of this workshop is to introduce the exciting field of AI using demos and hand-on training. The objective is that participants having no prior knowledge of computer programming and AI can easily understand the theory and practical implementation of AI in a holistic way. It is expected that at the end of the workshop, participants will be able to build machine learning and deep learning models to solve problems related to data science and computer vision. The workshop will have several hands-on sessions using the Python language.

CONTACT US

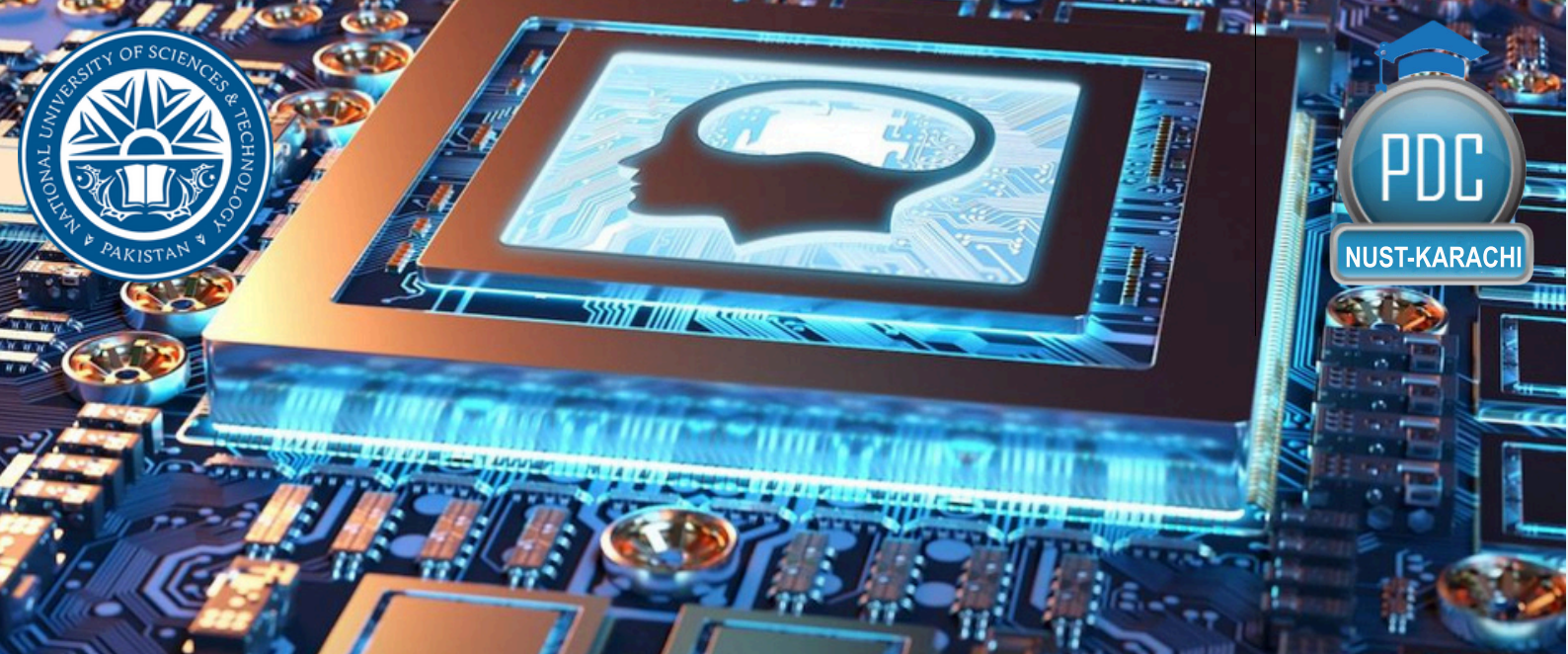
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CLASS MODULES :

- 1 – Overview of Artificial Intelligence and Demos
- 2 – Hands-on Python Refresher Course using Google Colab
- 3 – Machine Learning Techniques
- 4 – Shallow Neural Networks and Deep Neural Networks
- 5 - Advanced Deep Learning Applications

PNS JAUHAR, Habib Ibrahim Rehmatullah Road, Karachi, Pakistan

PNEC-NUST



WORKSHOP CONTENTS:

DAY 1

OVERVIEW OF ARTIFICIAL INTELLIGENCE AND DEMOS

1. Introduction to Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL)
2. State-of-the-art in AI
3. Supervised, Unsupervised and Reinforcement Learning
4. Overview of ML and DL techniques
5. Workflow of ML and DL systems
6. Demo 1: Linear Regression using Machine Learning
7. Demo 2: House Rent Prediction using Machine Learning
8. Demo 3: Handwritten Digit Recognition using Deep Learning
9. Demo 4: Cats and Dogs Classification using Deep Learning
10. Demo 5: Speech Recognition and applications

DAY 2

HANDS-ON PYTHON REFRESHER COURSE USING GOOGLE COLAB

1. Introduction to Google Colab and Jupiter notebook
2. Python syntax and variables
3. Arithmetic and logical operators
4. Flow control and conditional statements
5. Lists, tuples, string and dictionaries
6. Functions

DAY 3

MACHINE LEARNING TECHNIQUES

1. Data preparation
2. Feature extraction
3. Supervised learning
4. Linear Regression
5. Lab 01: Linear Regression
6. Lab 02: House Rent Prediction

DAY 4

SHALLOW NEURAL NETWORKS & DEEP NEURAL NETWORKS

1. Biological and Artificial Neural Networks
2. Artificial Neural Network Programming using Python
3. Lab 01: Handwritten Digit Recognition using Shallow Neural Networks
4. Lab 02: Handwritten Digit Recognition using Deep Neural Networks

DAY 5

ADVANCED DEEP LEARNING APPLICATIONS

1. Convolutional Neural Network
2. Lab 01: Cats and Dogs Recognition using a Deep Neural Network
3. Neural Style Transfer
4. Lab 02: Neural Style Transfer implementation

ABOUT THE TRAINER:

Dr Gul Shahzad is working as Assistant professor in the department of Electronic and Power Engg dept and is also the director of Artificial Intelligence Lab.

He has done his PhD from Hanyang University South Korea in Electronics Engineering and did his research in the domain of Internet of Things (IoT) while working on a Korean Government funded smart city project. Dr. Gul did his masters from Germany in information of communication Engineering and has worked in Franhofer institute and max Planck institute, two prestigious Research and Development organizations in Germany.

In PNEC-NUST, Dr. Gul is involved in teaching at both graduate and postgraduate level in the relevant domain such as AI and Decision Support System, AI & Machine Learning, Advanced Wireless Communications, Digital Signal Processing. He is also the founder and advisor of NRAI (NUST Artificial Intelligence and Robotics) society, which is involved in the development of AI enabled Humanoid robot.

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