*under Ministry of Electronics and Information Technology, **Govt. of India***

NIELIT Chandigarh and IIT Ropar

announces

Joint Certification Programme in

Artificial Intelligence and Machine Learning

Duration- 6 Months (24 weeks) **Seats : 30**

Introduction

Artificial Intelligence is the intelligence exhibited by machines or software. The application areas of artificial intelligence are very vast and so this is a field of study which is gaining importance day by day. This branch of engineering emphasizes on creating intelligent machines that work and react like humans.

Objective

This course will cover the Python Programming and its fundamental data structures. Students will learn how to program and work on data science libraries like Numpy and pandas, apply data analysis, data cleaning techniques, data visualization. The concept of Machine Learning, its models and implementation of its algorithms will be covered in detail. The deep learning algorithm in neural networks converting the domain of text and images will also be covered.

Course Highlights	*Outcome of the Course*
✓ *Joint assessment and certification* ✓ *Lectures by faculty of NIELIT and IIT Ropar* ✓ *Major thrust on Hands-on training* ✓ *Course curriculum jointly designed by NIELIT and IIT Ropar* ✓ *Exposure & access to high standards of IIT & NIELIT's industry oriented approach*	✓ *Industry Ready* ✓ *In depth practical knowledge of AI and ML* ✓ *Enhance Employability* ✓ *Visit to IIT Ropar*

Eligibility

Pursuing B.Tech. (any discipline) / MCA / A Level / BSc/ MSc Diploma (IT/CS)/BCA

Fee

Rs. 20,000+GST (**Rs 23,600.00**)
Fee in 2 equal instalments

Certificate

Certificate will be provided to the participants, based on minimum 75% attendance and on performance and project work conducted at the end of the course.

Methodology

- ✓ Instructor-led live classes
- ✓ Instructor-led hands-on lab sessions.
- ✓ Assignments and Project Work

How to register?

Step-1: Read the course details carefully.
Step-2: Visit the Registration portal
Step-4: Pay the Fees online, using ATM-Debit Card / Credit Card / Internet Banking / UPI etc.

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Python Associate

- ✓ Programming with Python
- ✓ Jupyter notebook – Installation & function
- ✓ Python - Operators, Expressions and Python Statements
- ✓ Conditional Statements and Loops
- ✓ Sequence Data Types – List, Tuple, set
- ✓ Input and Output in Python
- ✓ Dictionary, functions, Lambda Functions
- ✓ Modules and Functions in Python
- ✓ NumPy-arrays, indexing, slicing and iterating, reading csv into NumPy arrays

Data Analyst

- ✓ Data Science Concepts
- ✓ Advanced concepts in Numpy
- ✓ Pandas – Data frame, Series, EDA using python
- ✓ Reading and Writing data from Excel/CSV formats into Pandas
- ✓ Merging, Concatenating, Group by and aggregation on data frames
- ✓ Statistical Concepts and Functions
- ✓ Time Series Analysis and its models
- ✓ Data visualization using Matplotlib
- ✓ Grids, axes, plots, colors, fonts and styling
- ✓ Types of plots - bar graphs, pie charts, histograms, Scatterplot
- ✓ Web development using Flask

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Artificial Intelligence and Machine Learning

Artificial Intelligence & Machine Learning Expert

- ✓ Machine Learning - Categories of ML, Supervised, Unsupervised, Reinforcement, Semi Supervised.
- ✓ Regression, Classification, Naive Bayes, Support Vector Machines, Decision Trees, K-nearest Neighbors, Ensemble Methods of Classification, Machine Learning Evaluation Metrics, Overfitting and Under fitting, Cross Validation,
- ✓ Unsupervised - What is Clustering & its Use Cases, K-means Clustering, K-means algorithm, Hierarchical clustering, Hierarchical Clustering algorithm, High-dimensional clustering, Dimension Reduction-PCA
- ✓ Implementing different types of Supervised Learning algorithms
- ✓ Evaluating model output, Dimensionality Output

Neural Networks & Deep Learning Professional

- ✓ Artificial Neural Networks – ANN structure, Feed Forward Neural network, Back Propagation.
- ✓ Deep Learning Concepts, Convolutional Neural Network (CNN), Neural Network using Tensorflow.
- ✓ Learning Algorithms, Error correction and Gradient Descent Rules, Perceptron Learning Algorithm. Keras and PyTorch elements
- ✓ Computer Vision – Face Recognition and Detection with OpenCV, Face Recognizers, Training data, Prediction.
- ✓ Natural Language Processing – Basics of text processing, Lexical processing, NLP tasks in syntax, semantics, and pragmatics. Applications like Automatic Summarization, Sentiment Analysis and Text Classification, NLTK toolkit

Contact Us

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Register online at: https://nielit.gov.in/chandigarh-> Education and Training -> Online Registration Form