NIELIT Ropar and IIT Ropar

Six Months Joint Certification Programme in

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

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.

Course Highlights

- ✓ *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*

Objective : This joint certification programme is being undertaken in since 2019 and covers not only the Python Programming and its fundamental data structures, rather participants also learn how to program and work on data science libraries like Numpy and pandas, apply data analysis, data cleaning techniques, data visualization.

Course Outcome

- ✓ *Industry Ready*
- ✓ *In depth practical knowledge of AI and ML*
- ✓ *Enhance Employability*
- ✓ *Visit to IIT Ropar*

राइसूप्रौसं NIELIT
under Ministry of Electronics and Information Technology, Govt. of India

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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

Eligibility : 10+2 pass and pursuing B Tech / MSc / BSc (in any stream and any year) or MCA/ BCA (any year) or Diploma (IT/CS) pass or A Level or higher

Fee : Rs.22,000 +18% GST (Rs.25,960.00)
Paid in two equal installments

Course Methodology

- ✓ *Instructor-led live classes*
- ✓ *Instructor-led hands-on lab sessions.*
- ✓ *Assignments and Project Work*
- ✓ *Hosting projects*
- ✓ *Project Demonstration*

Four module programme followed by Industry relevant Project :

- ✓ Python Associate
- ✓ Data Analyst
- ✓ AI and ML Expert
- ✓ Neural Networks and Deep Learning Professional

** Limited Seats*

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

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

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
- ✓ Generative AI, Transformer, LLM, Ethical AI and their applications

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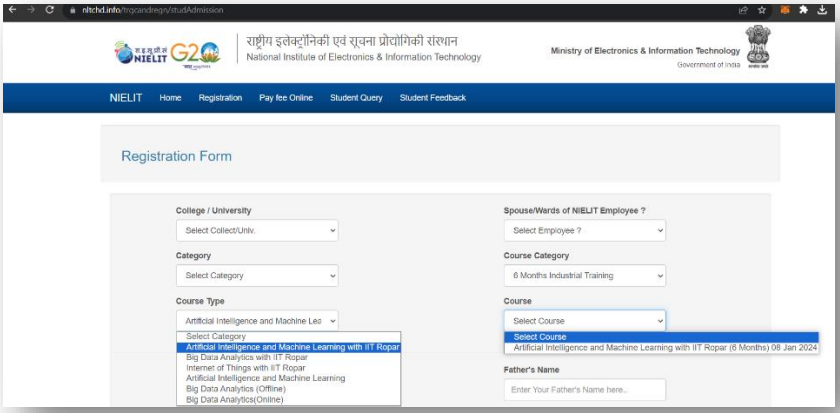
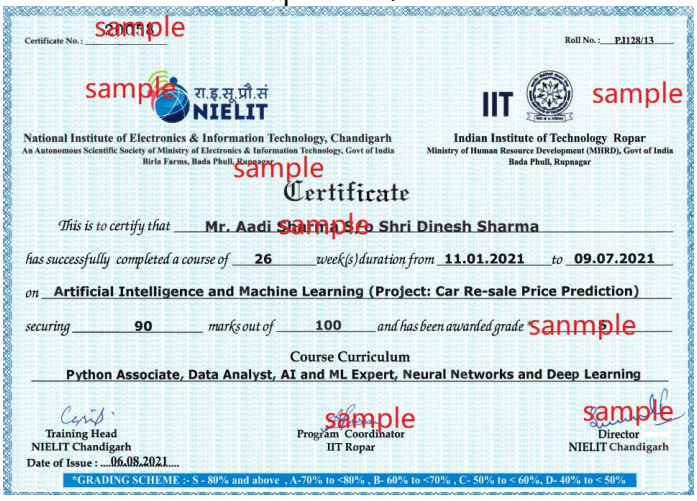
Registration link : https://nltchd.info/trgcandregn/studAdmission



sample certificate



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Faculty

Dr. Puneet Goyal,
Associate Professor
Dept. of Computer Science,
IIT Ropar
For Image Processing

Dr. Shweta Jain,
Assistant Professor
Dept. of Computer Science,
IIT Ropar
For Unsupervised Learning

Dr. Shashi Shekhar,
Associate Prof.,
Dept. of Computer Science,
IIT Ropar
for Recurrent Neural Networks

Dr. Somdev Kar, Associate Professor
Dept. of Humanities & Social Sciences,
IIT Ropar
For Natural Language Processing

Dr. Arun Associate Professor
Mathematics Dept., IIT Ropar
for Mathematics and Statistics

Anita Budhiraja, Scientist – E,
NIELIT Ropar
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Dr. Sarwan Singh, Scientist – D
NIELIT Ropar
9815621657

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Testimonials

NIELIT Ropar and IIT Ropar

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Testimonials @Youtube

Contact Us

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