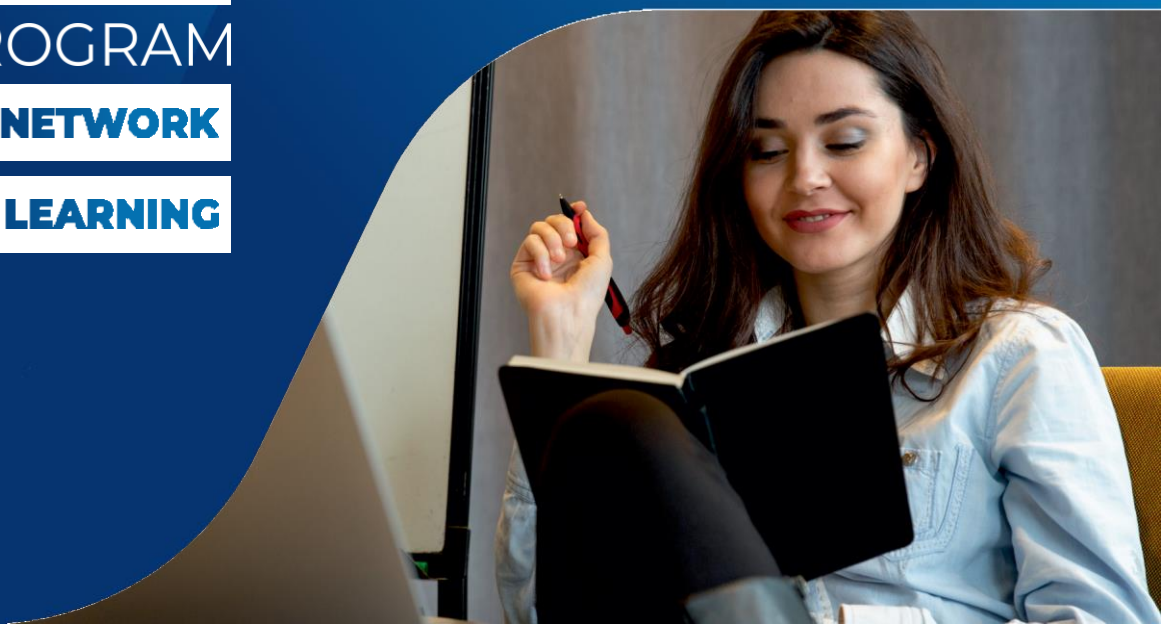
Parul® University | NAAC A++ ACCREDITED UNIVERSITY

Centre for Continuing Education and Online Learning

DIPLOMA PROGRAM IN NEURAL NETWORK AND DEEP LEARNING



Program Code:
2275905

Course Duration:
1 Year

Course Fees:
Rs. 25,000/- & $450

PARUL UNIVERSITY

Parul University is an intellectual and a creative quest for all its stakeholders viz. Indian and International Students, Parents, Alumni, Faculties, Industry & Academic partners as well as society at large. We believe in proliferating our efforts towards quality education and environment. Every year we advance our targets to make headway to our scholarly endeavors.

Our University brings to everyone the best of all worlds. Be it its ethics, global exposure, contemporary educational practices, innovation and growth, PU outshines in all of these. We aim to make successful academic pursuits through entrepreneurship, research, modernization and partnerships with educationally inclined organizations, thus enhancing our position as the finest education destination.

We have been pioneers in accepting various interdisciplinary programs and have included them to our ideal and promising higher education curriculum. Starting with this decade it's our collective effort to empower more youth towards the pursuit to continuously learn, enhance skills, generate better employment opportunities and become competent entrepreneurs. For this very purpose, we are initiating a plurality of short term courses.

CENTRE FOR CONTINUING EDUCATION & ONLINE LEARNING

In this present day world, each year creates a generation gap which leads to change in the demand of job skills by the employers. Parul University has embarked on filling this gap by enlightening students and working professionals with the most updated skill based education and to transform them into adept industry professionals and talented entrepreneurs.

Parul University is introducing multiple programs under Centre for Continuing Education & Online Learning which are developed as per industry requirements and in compliance with the changing market needs.

DUAL DEGREE PROGRAM - LETS YOU EARN TWO CREDENTIALS IN DISTINCT DOMAINS

With the ever increasing knowledge and skills in today's competitive world, Parul University's Dual Degree opportunities allow you to pursue two degrees at the same time. Pursuing dual degrees will provide you with the most competitive advantage, and will give you diverse knowledge in multiple fields and disciplines. Undergraduate and Postgraduate students can undergo two degree programs in distinct fields. All programs offered by Parul University under Dual Degree are designed in line with NEP 2020 and guidelines suggested by University Grants Commission (UGC).

Surprising Benefits of Graduating with a Dual Degree

- Enhancing Employability and Entrepreneurship Skills
- Increase in Knowledge Base
- Diverse Career Options
- Enhancement of Multi-disciplinary Talent
- Saving of Time and Money

PREAMBLE

A neural network is a series of algorithms that endeavors to recognize underlying relationships in a set of data through a process that mimics the way the human brain operates. Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers.

It is essential to know programming languages like R and Python in order to implement the whole Machine Learning process. Both languages provide in-built libraries that make it very easy to implement Machine Learning algorithms. Deep learning or machine learning professionals use Python or R as their programming language because of their functionalities and effectiveness. However, python is widely used and popular among majority professionals due to its versatility. Courses on image processing, computer vision, machine learning, artificial intelligence, and recommendation systems, evolutionary algorithms are recommended.

Program Name: Diploma Program in Neural Network & Deep Learning

Program Type: Diploma

Program Duration: The total duration of the course will be 1 year including practical project work

For Whom: individuals with 10+2 education or relevant education

Program Fees: The program fee is Rs. 25,000/- for Indian Candidates and $450 for International Candidates. Parul University students can avail a scholarship of 30%.

PROGRAM HIGHLIGHTS:

- Diploma in Neural Network & Deep Learning.
- Hand-on Practice in Python.
- Project Work using Python Language.

CAREER OPPORTUNITIES

A candidate by undergoing this program shall have the following career opportunities:

1. Data Science Engineer
2. Machine Learning Engineer - Data Science
3. Deep Learning data scientist
4. Senior Machine Learning Engineer
5. Data Scientist
6. Data Engine
7. Neuroinformatician
8. Research Fellow
9. Instructor for Deep Learning
10. Applied Scientist
11. Full Stack Web Developer for Deep Learning
12. Lead Manager – Deep Learning
13. Natural Language Process Engineer

PROGRAM OBJECTIVES AND OUTCOMES

Program Objectives	Program Outcomes
Define the problem to be solved using Artificial Intelligence. (1)	State the problems to be solved using Artificial Intelligence.
Identify appropriate machine learning technique for prediction (2)	Classify various machine learning techniques for prediction
Use programming skills to solve machine learning based problems (3)	Apply the functional knowledge of in-built libraries i.e. pandas, keras, sklearn, etc., and other object-oriented concepts of python to build the machine learning based models.
Relate hidden data patterns using exploratory data analysis and data visualization to extract important insights (4)	Organize the data using various univariate, bi-variate and multi-variate plots.
Evaluate the various performance parameters of the Artificial Neural Network and Deep Neural Network based models. (5)	Judge the performance matrices such as accuracy, recall, precision, MAE, etc. for ANN and DNN based models.
Design the Artificial Intelligence (AI) based systems (6)	Develop the Artificial Intelligence (AI) based systems for various case studies such as credit risk in finance, fraud website detection in cyber security, object detection using computer vision, etc.

COURSE CURRICULUM:

Semester – I					
Sr. No.	Subject Name	Teaching Scheme (Contact hrs/week)			Credit Assigned
		Theory	Practical/Tutorial	Total	
1	Basics of Artificial Intelligence	4	2	6	5
2	Fundamentals of Machine Learning	4	2	6	5
3	Python for Machine Learning	4	2	6	5
4	Statistics, Exploratory Data Analysis, and Data Pre-processing	4	2	6	5
				TOTAL	**20**

Semester – II					
Sr. No.	Subject Name	Teaching Scheme (Contact hrs/week)			Credit Assigned
		Theory	Practical/Tutorial	Total	
1	Fundamentals of Neural Network	4	2	6	5
2	Basics of Deep Learning	4	2	6	5
3	Basics of SQL & Data Visualization	3	2	5	4
4	Project	0	12	12	6
				TOTAL	**20**