SIX-MONTH SKILL-DEVELOPMENT VALUE-ADDED DIPLOMA COURSE IN

Artificial Intelligence and Machine Learning for Clinical Research and Pharmaceutical Industry

CliMed

Research Solutions

+

NEW BATCH

Registrations are Open for Course 2 Now

COURSE DESCRIPTION AND IMPORTANT READ:

After the successful completion of three-months course in Artificial Intelligence & Machine Learning Essentials for Pharma Industry, CliMed & Curio bring to you the advanced diploma in same domain.

The Executive diploma in Artificial Intelligence & Machine Learning Essentials for Pharma Industry includes two certificate courses, each of three months. The participants can take individual course also as a certificate course

Course 1: Executive Certificate Course in Basic AI for the Clinical Research and Pharmaceutical Industry

This course provides a foundational understanding of Artificial Intelligence (AI) concepts and their application in the pharmaceutical industry. Through hands-on exercises in Python, you'll gain the skills to manipulate, analyze, and leverage pharmaceutical datasets to support drug discovery, clinical trials, and other research endeavors

Course 2: Executive Certificate Course in Advanced AI for the Clinical Research and Pharmaceutical Industry

This intensive course delves into cutting-edge Artificial Intelligence (AI) techniques specifically tailored for the pharmaceutical industry. Designed for those with a solid foundation in machine learning, you'll gain expertise in deep learning architectures, natural language processing (NLP), and generative AI – all within the context of pharmaceutical research and applications
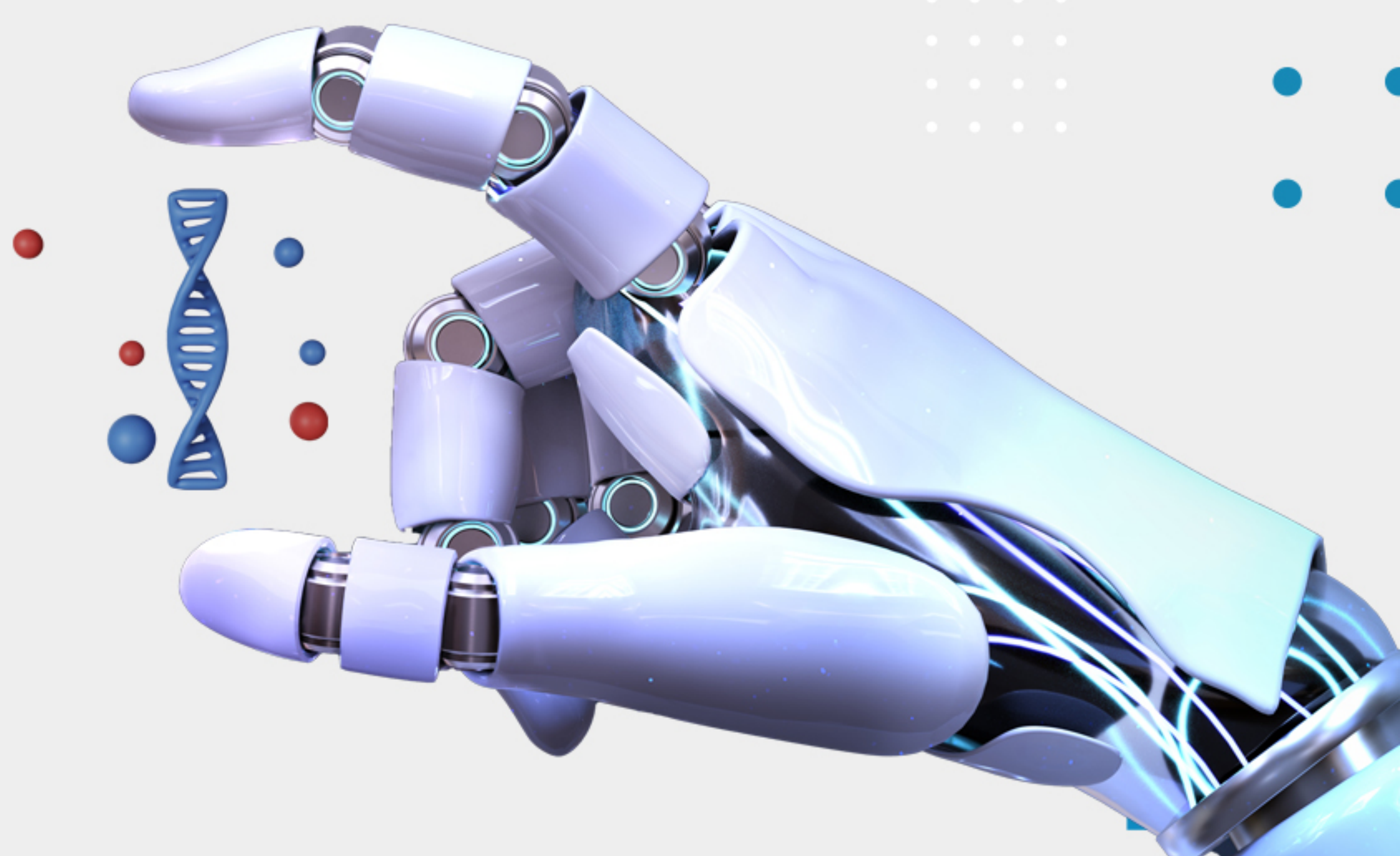
COURSE HIGHLIGHTS:

➡ *One of the trending courses to upgrade the pharma/research outputs*

➡ *Nominal Fee in Comparison to Market*

➡ *Hands-on Training*

➡ *Value-added course with 40+ hours of learning*

➡ *Assignments & Quizzes*

➡ *Top-notch faculty members from the industry*

➡ *End-to-end engagement*

➡ *Understanding of latest AI applications for Pharma research and drug development*

Syllabus Course 1 (14 Sessions):
Executive Certificate Course in Basic AI for the Clinical Research and Pharmaceutical Industry

Week 1: Introduction to Python for Pharma

▸ *Introduction to Python programming language and its relevance in the pharmaceutical industry*

▸ *Installation and setup of Python environment (Anaconda distribution, Jupyter Notebook)*

▸ *Basic Python syntax, data types, and operators*

▸ *Writing and executing Python scripts*

Week 2: Data Manipulation with Pandas

▸ *Introduction to the Pandas Library for data manipulation*

▸ *Importing and exporting pharmaceutical datasets (CSV, Excel)*

▸ *Data cleaning and preprocessing techniques specific to pharmaceutical data*

▸ *Filtering, sorting, and grouping data*

▸ *Handling missing values and outliers*

Week 3: Exploratory Data Analysis (EDA) in Pharma

▶ *Importance of exploratory data analysis in pharmaceutical research*

▶ *Summarizing and visualizing pharmaceutical datasets using pandas*

▶ *Descriptive statistics for pharmaceutical data*

▶ *Distribution analysis and visualization (histograms, density plots)*

▶ *Relationship analysis (correlation, scatter plots)*

Week 4: Statistical Analysis for Pharma

▶ *Hypothesis testing in the pharmaceutical context*

▶ *t-tests for comparing groups (e.g., drug vs. control)*

▶ *Analysis of Variance (ANOVA) for multiple group comparisons*

▶ *Chi-square tests for categorical data analysis*

▶ *Practical examples and applications in the pharmaceutical domain*

Week 5 & 6: Machine Learning Basics for Pharma

▶ *Introduction to machine learning concepts and algorithms relevant to pharmaceutical data analysis*

▶ *Supervised learning: Linear regression, logistic regression, decision trees*

▶ *Unsupervised learning: Clustering techniques (K-means, hierarchical clustering)*

▶ *Model evaluation and performance metrics for pharmaceutical applications*

▶ *Practical implementation of machine learning algorithms using scikit-learn*

Week 7: Project

▶ *Application of basic AI concepts learned so far to solve a real-world pharmaceutical data problem.*

Syllabus Course 2 (14 Sessions):
Executive Certificate Course in Advanced AI for the Clinical Research and Pharmaceutical Industry

Week 1 & 2: Deep Learning for Pharma

- *Introduction to deep learning concepts and neural networks*
- *Building deep learning models for pharmaceutical data analysis*
- *Convolutional Neural Networks (CNNs) for image data in pharmaceutical research*
- *Recurrent Neural Networks (RNNs) for time-series data analysis in pharmaceutical research*

Week 3: Natural Language Processing (NLP) in Pharma

- *Introduction to NLP techniques and libraries (NLTK, spaCy) in the pharmaceutical industry*
- *Text preprocessing techniques (tokenization, stemming, stop-word removal)*
- *Sentiment analysis of pharmaceutical reviews and social media data*
- *Named Entity Recognition (NER) for drug and disease extraction*
- *Topic modeling for analyzing pharmaceutical literature*

Week 4: Deep Learning for Pharma

- *Introduction to generative models such as Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs)*
- *Application of generative models in pharmaceutical research (e.g., molecular generation, drug discovery)*

Week 5: GitHub and Collaboration

- *Introduction to version control with Git and GitHub*
- *Collaborative projects using GitHub for code sharing and management.*

Week 6: Advanced AI Project

- *Application of advanced AI concepts learned to solve a complex pharmaceutical data problem.*

Program **Description**

▷ **Mode:**	⏱ **Duration:**	*Classes on*
Virtual	Three + Three Months	*Saturday and Sunday Evenings*

Commencement of Course 2

December 28, 2024

Last Date to Register:

December 25, 2024

Who can Attend:

▸ *Pharm D, B. Pharm, M. Pharm & Researchers from Pharmacy Background*

▸ *B Tech Pharma & Biotech, anyone who is associated with Pharma & Medical Projects and want to learn*

Fee & Registration Link:

Certificate Course 2 Fee: **2499/- INR** *(75% discount on tuition fee of 9999 INR)*

Advanced Course 2
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