Learnbay

Healthcare Domain

Domain Specialization &
Project Expertise

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Domain Specialization elective :

Healthcare, Pharma & Clinical Research

6 Industry Relevant Projects

20+ Case Studies & Assignments

100% Interview Guarantee

- Gain an edge in a competitive market through advanced tools and technology, unlocking success.
- Unleash your data analysis skills, craft a vibrant dashboard, and bring your insights to life.
- Elevate your leadership abilities, harness data knowledge, and make informed decisions for growth.

Who Can Apply?

Executive level Professional

Executive-level professionals or consultants aspire to excel in the healthcare field, and add value to both their career and organisation

Professionals interested in Healthcare, Pharma & Clinical Research Sector

Aspiring individuals interested in the healthcare sector, with limited coding expertise can achieve their tech dreams through our Program

Experienced Professionals at Leadership Roles

For managers and leaders seeking a rewarding career transition while maintaining their current roles can choose this data science domain elective

Tools & Modules

Statistics | Machine Learning | Time Series Analysis & Forecasting

Natural Language Processing | Advance AI

Python

SQL

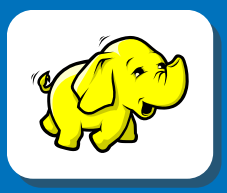
Tableau

PowerBI

R

MongoDB

Tensorflow


Hadoop

Apache Spark

Azure

Git

GitHub

Transition Process

Transforming 30k+ careers with staggering 250% salary boosts and an exceptional 175% average hike.

Get IBM Course Completion Certificate

Complete the most sought-after program, get IBM's course certificate, and elevate your skills to new heights!

Unlock Limitless Career Opportunities

Conquer the tech domain and open the gateway to boundless career prospects with 250% salary hike

Master Key Skills to Excel

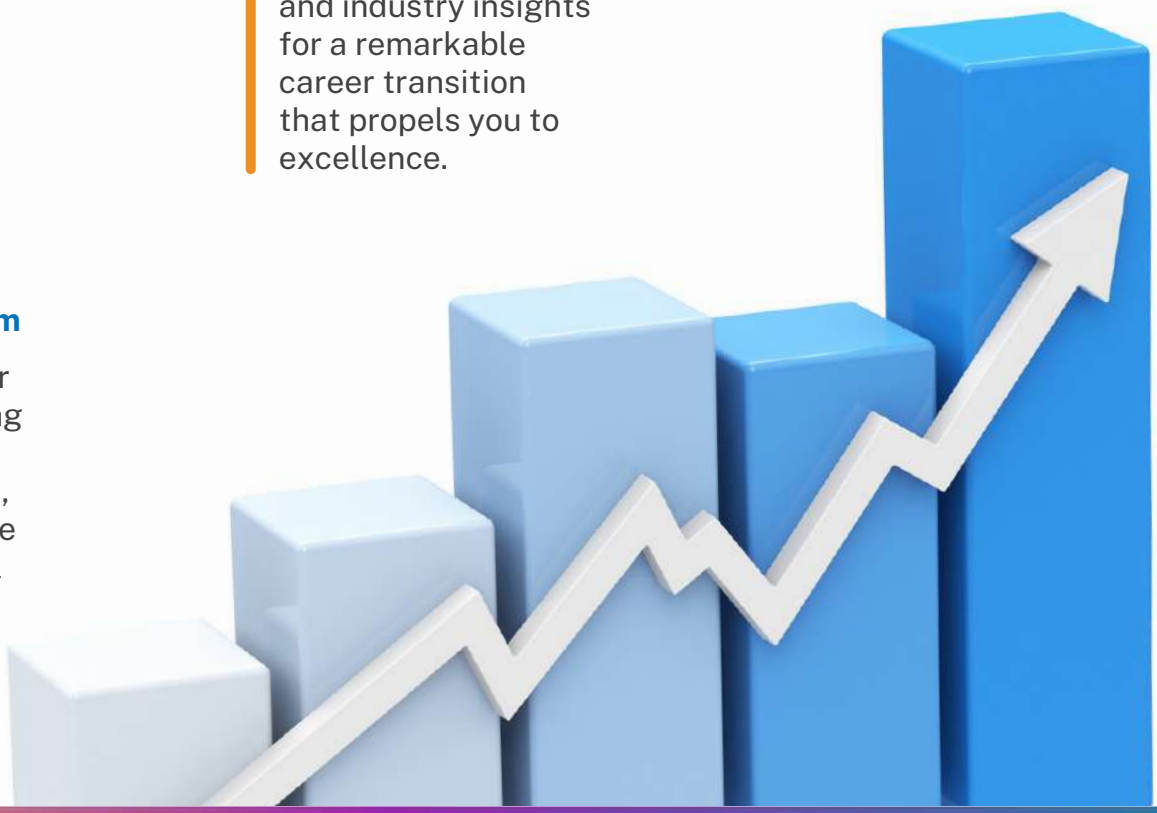
Learn essential skills and industry insights for a remarkable career transition that propels you to excellence.

Flexible Learning with Hands-On Exposure

Get immersive experiences for unparalleled learning through practical engagement taught by industry experts

Enrol in our Program

Supercharge your career by enrolling in our industry-relevant program, designed to shape your professional trajectory.



What Will You Learn?

- The healthcare industry is no more just about a business between a doctor and patient; it is a fundamental field that consists of confidential most data of people, which is about health. A
- survey revealed that healthcare fields store 30 percent of global data. The data which this fields can help the government in various ways. Some of the most effective uses of Data Science in healthcare is in medical imaging. Data Science with the backup of Machine Learning makes computers learn to interpret MRI's, X- rays, mammo -graphics and other different medical reports. It identifies the concerning most issues like cancerous cells, tumors, artery issues, organ anomalies and etc, by reading into different layers of the report and through identifying correlations between data.

- Understand a lot about healthcare sectors
- Get an understanding of the Insurance Life Cycle and Healthcare Insurance offerings
- Explain project scope and project plan in a genuine business situation
- About how to comply with documentation and report requirements, and how to prevent GCP non-compliance.
- Pharmaceutical companies utilize various data sources such as social media and public health databases, as well as more specific selection criteria such as genetic information to determine which demographics might be ideal for clinical trials.
- To predict in advance whether a compound will provoke an adverse reaction before it even reaches trial.

Project Life Cycle Expertise with 2 Capstone Projects

Domain Training

Module 1

Healthcare Domain Training

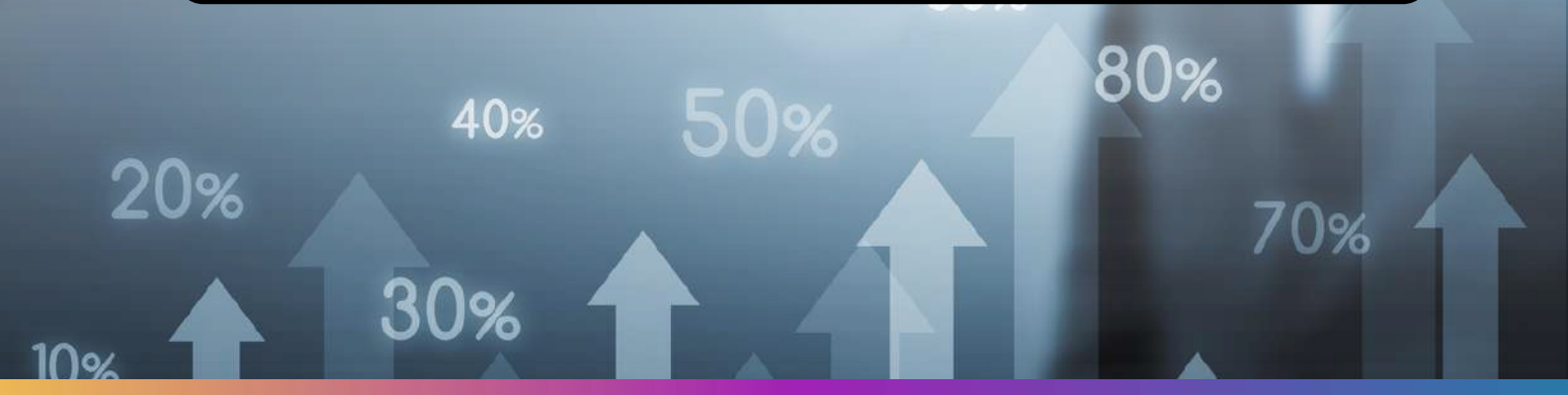
In this Introductory session, you will learn the basic Healthcare sector information. The topics covered in this module are -

- Health insurance Overview
- Claim Process
- EDI Transactions - I
- EDI Transactions - II
- Facets - Overview
- Health Information Exchange

Module 2

Pharma Domain Training

- GCP, Need of GCP, Nuremberg Code, Reasons for GCP, Core principles of ICH-GCP.
- IEC vs IRB, IEC/IRB Authority, Responsibility of IEC.IRB, The Belmont Report
- Investigator, Sub-Investigator, Compliance with and Deviation from Protocol, Investigational Medicinal Products, Premature termination or suspension of trial.
- Clinical trial protocol, Protocol deviation and violation.



Domain Training

Module 3

Clinical Research Domain Training

- Drug discovery and Development, Pre-clinical studies, Basics of clinical trials and clinical research
- Terminologies and definitions in clinical trials, Types and phases of clinical trials, Good clinical practices
- BA/BE Studies, Clinical trial design, Clinical Trial Regulatory Affairs, Intellectual Property Rights and Patent Laws

Module 4

Data Analysis in Healthcare, Pharma and Clinical Research Domain

- Data-Based Patient Selection
- Real-Time Monitoring from trials to ensure safety and minimize operational risks
- Drug Safety Assurance to predict in advance whether a compound will provoke an adverse reaction before it even reaches trial.
- Determining which customers and doctors are more likely to use a medication and devising more tailored on-the-ground marketing strategies, using predictive techniques.
- Patterns in drug-drug interactions, what drives patients to stop taking medications, which patients will not stick to the prescriptions

Domain Specalized Projects

Health Care Domain

Medical Image Segmentation

- In the realm of healthcare and medical sciences, machine learning and deep learning technologies are rapidly advancing.
- These technologies can even outperform doctors by creating results that aren't immediately noticeable to the naked eye.
- One such technique is polyp detection and segmentation, which aids clinicians in identifying polyps from colonoscopic pictures.
- CVC-ClinicDB is a database of frames extracted from colonoscopy videos.
- The dataset contains several examples of polyp frames & corresponding ground truth for them.
- The Ground Truth images consists of a mask corresponding to the region covered by the polyp in the image.

Pharma Domain

Risk-Based Monitoring in Clinical Trials

RBM allows clinical trial-related organisations (e.g., CROs) like IQVIA (Quintiles) to acquire vital patient and subject information in real-time and react proactively to prevent adverse events before they occur. Machine learning has been made possible in sensors and connected devices for EDC (Electronic Data Capture), such as devices for ECG, Actigraphy, Oximetry, and others, thanks to the emergence of capabilities in consumer products such as Apple Watch and IOS/Android mobile smartphones Sensor data can be sent in real time to a mobile device, which can then use machine learning to spot odd changes or anomalies in vital signs and sensor measurements. The use of Machine Learning in conjunction with inertial sensors and blood pressure monitors is a good example. If the algorithm has been taught to recognise comparable events that can lead to negative consequences, a sudden and abrupt shift in a patient's position combined with an elevated blood pressure level can immediately trigger a warning.

Domain Specalized Projects

Clinical Domain

Research in the field of Drug and Medicine

- Clinical research is a difficult field to master. Pharmaceutical companies rely significantly on data science to address problems and provide better treatments for patients.
- Medical research is a time-consuming procedure that also necessitates significant financial investment and extensive testing.
- This method is being revolutionized by Data Science and Machine Learning algorithms, which are providing substantial insights into optimizing and boosting the success rate of forecasts.
- Pharmaceutical businesses make use of patient data such as mutation profiles and patient metadata to gain insights.
- This data aids researchers in the development of models and the discovery of statistical connections between attributes.
- Companies can then create medications that target the main alterations in genomic sequences.
- Deep learning algorithms can also predict the likelihood of disease developing in the human system.
- Data science algorithms can also be used to mimic how medications would behave in the human body, eliminating the need for lengthy laboratory tests.
- It is now possible to improve the collecting of historical data to aid in the medication development process, thanks to improvements in data-science enabled drug discovery.
- It is feasible to develop new improvements in this field using a mix of genetics and drug-protein binding databases.
- Researchers can also use data science to examine and test chemical substances against a variety of cells, genetic mutations, and other factors.
- Researchers can construct models that compute the prediction from given variables using machine learning methods.

Domain Specalized Projects

Pharma Domain

Ultrasound Nerve Segmentation

- Much has been made in recent years about how precision medicine, and more specifically, genetic testing, would change the way diseases like cancer are treated.
- However, because to the large amount of manual labour still required, this is only partially occurring. We shall endeavour to realise the full potential of personalised medicine in this project.
- A malignant tumour can have thousands of genetic alterations once it has been sequenced. However, separating the mutations that contribute to tumour growth (drivers) from the variants that do not contribute to tumour growth (neutral mutations) is difficult (passengers).
- Currently, this genetic mutation interpretation is done by hand. A clinical pathologist must manually review and classify every single genetic mutation based on evidence from the text-based clinical literature, which is a time-consuming task.
- MSKCC is making an expert-annotated knowledge base available for this deep learning initiative, where hundreds of mutations have been manually annotated by world-class researchers and oncologists. MSKCC (Memorial Sloan Kettering Cancer Center) is making an expert-annotated knowledge base online, in which thousands of mutations have been painstakingly annotated by world-class researchers and oncologists.
- We will design a Machine Learning system that can automatically classify genetic changes using this knowledge base as a baseline in this machine learning project.

Domain Specalized Projects

Pharma Domain

Personalized Medicine

- Even the bravest patient shivers when a surgical operation is mentioned. Surgery is invariably unpleasant, and it frequently results in substantial post-operative pain.
- Currently, patient pain is typically addressed with opioids, which have a slew of negative side effects.
- The sponsor of this data science project is attempting to improve pain management by using indwelling catheters to block or lessen pain at its source.
- Pain management catheters help patients recover faster and lessen their need on drugs.
- It's crucial to correctly identify nerve structures in ultrasound pictures before putting a patient's pain management catheter.
- We must create a model that can detect nerve components in a collection of ultrasound images of the neck for this data science project in Python.
- This would help to enhance catheter placement and contribute to a future free of pain.

FAQs

Can I select multiple domain electives?

You can select multiple electives based on your career goal and work experience/academics.

What if I don't have any prior experience in any domain?

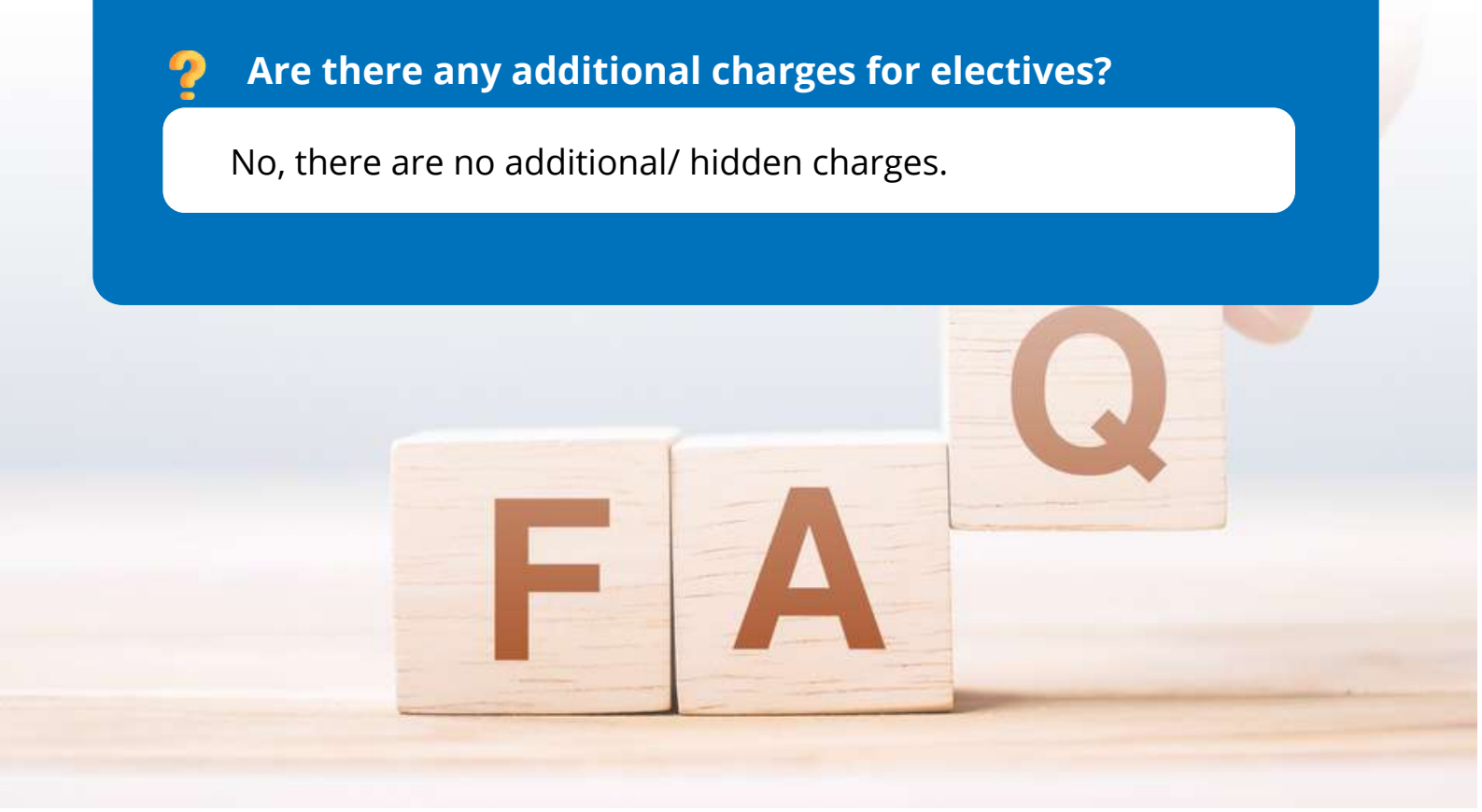
Even if you don't have any prior experience, you can still opt for any elective.

Can I change my domain electives later ?

Yes, you can change your elective or repeat the training later within the Course Accessibility Duration.

Are there any additional charges for electives?

No, there are no additional/ hidden charges.



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