Elective No. 2

Retail, Ecommerce and Supply Chain Domain

Domain Specialization & Project Expertise

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Domain Specialization elective :

In Retail, Ecommerce and Supply Chain Domain

- Learn how to succeed in an increasingly competitive market with advanced tools and technology by using proven methodology.
- Master your data analysis skills and create a dynamic dashboard to describe your insights
- Develop leadership skills by gaining a better knowledge of data and making more informed choices regarding prospects, customers, product lines, market opportunities, and team performance.

6 Industry Relevant Projects

20+ Case Studies & Assignments

100% Interview Guarantee

Elective Details

The fields of data science and artificial intelligence use a wide range of approaches, including statistical analysis, modelling, machine learning, and data mining, to help us forecast the future.

Who should join?

- Executive-level professionals or consultants, who are working in Retail, E-commerce, Supply Chain/ Logistics domain or dreaming of securing a position at the forefront of the same domain or related domain practices to add value to both their career and organization.
- Managers and leaders associated with Retail or E-Commerce background looking to incorporate future proof and data-driven newfangled practices into the existing business operations.

Why domain specialization?

- Data science skill efficacy is all about using your domain-specific knowledge in a balanced way using data-driven methods.
- As a result, if you don't have domain expertise, your data science abilities are useless.
- Even so, these are the main reasons why experienced workers seeking career changes are in greater demand.

Course Pre - requisite:
Professionals having 1+ year of experience in either Retail, E - Commerce or Supply Chain & logistics domain. Or non-E Commerce professionals interested in learning about the newest E Commerce technology, data analyst and business analyst techniques that drives strategic development.

NO background in programming or statistics required.

Tools & Modules

TERM 1 & 2

Python

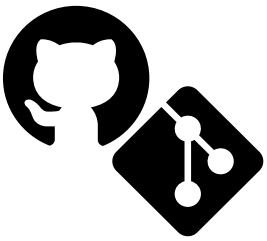
Statistics

Machine Learning

Deep Learning (Tensorflow)

Time Series Analysis & Forecasting

Natural Language Processing



Git & GitHub

R Programming

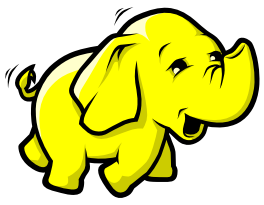
TERM 3 & 4

SQL for Data Science

Tableau

Power BI

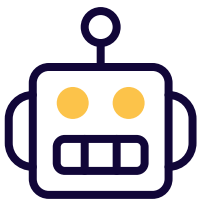
Mongo DB



Hadoop

Apache Spark

Google Cloud



Advance AI

Transition Process

100% Job Referral Guarantee

Job Preparation (Resume Build- Up, Mock Interview, Job Referrals)

Work on Real Time Projects and Domain Specific Capstone project

Analyze your knowledge and interest towards any 2 domain from Domain Electives

Complete General Program (Term 1 to 4) Core + Advance Modules & Tools

Main Brochure

What will you learn?

This elective teaches students how to analyze data and derive key insights that can help businesses acquire a competitive advantage. The RSCA process, Sentiment Analysis, Google Analytics, NLP, Recommendation systems, Deep learning concepts, Text Analysis, and Customer Behavioral Analytics. The application of Operations Research in supply chain management is given its own module.

Models and metrics like as ROE, ROA, APT, INVT, and PPET are also defined in the Supply Chain Operation Reference (SCOR) framework. The use of simulation and time series forecasting in supply chain management will also be appreciated by the participants.

- This E-Commerce , Retail and Supply Chain program is created with the goal of introducing participants to the principles, elements, business models, and other aspects of operating an electronic commerce business.

- With domain expertise you will have a deeper understanding of the subject than anyone else in your company. Become well-versed and understand the best practices in your respective fields. Be aware of the issues you and your company may encounter in the future. Most crucially, a well-known Domain Specialist boosts company's market value.

Domain Specialization
In Retail Ecommerce and Supply chain Domain

Project Life Cycle Expertise
with 2 Capstone Projects

Domain Training

SUPPLY CHAIN

Module 1

A deeper insight of predictive analytics in supply chain. This module will help you to implement a cost-effective supply chain model in your organisation.

The entire shipping and logistics will run on the basis of a future insight, which will be precise enough to fulfil the customer demands and to manage the product waste, simultaneously.

The module will cover the following topics:

- Predictive maintenance measures
- Cost and time effective delivery path tracking
- Product quality optimization according to demand, etc.

Module 2

You will be taught how to utilize linear regression to improve the performance of paid advertisements.

You'll also learn about the many terms utilized in today's customer analytics.

You'll learn how to keep your consumers engaged with the highest level of pleasure. Get acquainted with simulation in the context of Supply Chain Management.

- Understanding Online Behavior and identifying Target Consumers.
- Introduction to Segmentation/Clustering
- Clustering Techniques and approaches
- Introduction to Recommender Systems
- Search-Based Methods
- Associate Rules

Module 3

Understand the role of Supply Chain Analytics in Digital Transformation, machine learning approaches to business choices.
Understand how NLP techniques, such as voice to text and text to voice models, can be used to address the context. Learn how to use Computer Vision to understand how machines (computers) perceive an image or video input. To construct AI apps for recording customers' purchasing behavior, process photos and videos using CNN.

- Network Analysis
- Designing a supply chain network
- Managing Affiliate Networks and Vendor
- Inventory and Logistics Management

Module 4

By the end of this module you'll be able to Utilize time series forecasting to take proactive business decisions .Use data visualisation concepts to represent data for easy understanding

- Text and Google Analytics
- Chatbots
- Neural Networks in Supply Chain
- Time Series Analysis

Domain Training

E COMMERCE

Introduction to E Commerce

You will learn the introductory topics of the E-commerce industry, basic concepts and relatable examples with case studies will be covered. You will learn about the applications and potential in the retail and supply chain arena at the end of this session.

- E-Commerce Market and Customer
- Emerging Trends Opportunities and Challenges
- B2B , C2C , B2C Models
- Technology and Internet factors
- Website building and hosting
- Market Research (Web based)

Module 1 : A deeper understanding of the Recommendation engine

This module will help you build an analytical system for e-commerce sites with better product recommendations. This module includes the conceptual and practical topics on

- Impersonalised recommendation engine
- Personalised recommendation engine.

Besides, you will get training on the practical application of

- Precision
- NDCG
- MAP for K
- RMSE
- Mean Reciprocal Rank
- Types of data filtering
- Choosing the right ML algorithm model based on scenarios.
- Matrix factorization

Module 2 : Advanced machine learning approach to demand forecasting

This module will enable you to provide the ultimate data-driven solutions to e-commerce companies with better pricing but with better cash-flow management strategies. Prime topic includes

- Revealing the hidden data patterns
- Robust system designing
- Data processing speed acceleration without hampering the preciseness.
- Automation of newer data updates.
- Data Validation and data security

Module 3 : Deep learning approach to dynamic pricing and offers

This module helps you to learn the real-life application of deep learning algorithms. This module will include several analytical tools and artificial neural network designing with Keras. Other topics include

- Different web analytics tools
- Tricky strategic action on Big data
- Development of deep learning models addressing the competitive advantages.

Domain Training

RETAIL

Module 1 : Application of analytics in Customer Journey analysis

This module will help you learn the strategies and key points of converting the zig-zag pattern of buyers journey into a straightforward way for precise buyers journey analysis.

At the end of this module, you will be able to carry out data-driven cross-platform analysis of customer buying as well as product and price based expectations. The module will be more focused on the complex use of

- Emotion analytics
- Decision tree machine learning algorithm
- Logistic regression algorithm

Module 2 : Automation of the inventory Management

This module will help you to understand the scopes of AI allocation in the field of inventory management. you will be able to interlink all your stores, shoppers, and manufacturers with ML and AI-powered applications and analytics software.

The entire course will provide focus on the data-driven approaches and application of computer vision on

- Pricing errors
- out-of-stock items

Module 3 : Designing of analytical applications for In-store assistance and human interference-free customer support

This module will help you to manage the long queues of customers in front of the physical store help desk.

The key focus will remain on the use of data analytics for making customer choices in a sell-paced manner.

With the help of Lowebot, digital AI-powered device customers can get insightful output against their queries.

This module will take you deeper in

- Artificial neural network
- Text and voice analytics.

Module 4 : Use of big data analytics for identification of most profitable customer community and business locations.

This module will introduce you to the application of big data technology in terms of customer-related data analysis.

This module will focus more on several BI tools for the analysis of customer data and demands through real-time graphical analysis.

Tools covered under this module will be

- Hadoop
- Power BI
- IBM Cognos
- Tableau
- Matplotlib

Project Work

Usage-based warranty analytics

Retail Domain

Following the identification (forecasting) of the number of goods you need to purchase, determining the appropriate reorder level is vital to achieve that production does not halt due to stock-outs and that working capital is not blocked due to incorrect orders. Previously, procurement managers determined reorder levels based on their judgments at the product category level; however, it is now more convenient to calculate reorder levels for each item procured.

Furthermore, using statistical techniques, one can determine the demand distribution curve for various products based on historical data, and orders can be placed accordingly.

Customer Sentiment Analysis

Retail Domain

The most important element of sentiment analysis is data analysis on the body of the text in order to comprehend the viewpoint represented within, as well as other crucial variables such as modality and mood.

Natural language processing, text analysis, and other techniques are used to analyze neutral or negative opinions for brand-customer engagement. Data is often collected for sentiment analysis from online reviews, social media, feedback forms, online polls, and other sources.

Fraud Detection

E Commerce Domain

Fraud in an e-commerce sector is one of the most difficult sectors, since it may produce enormous financial losses. Fraud may occur in the fields of commercial identities, advanced charges, wire transfer fraud, reimbursement fraud, etc.

In the detection of fraud, deep neural networks prove successful. The system is based on data analysis techniques and a prediction based on neural networks to detect fraudulent tendencies that may help retailers defend themselves against fraudsters.

Recommendation System

E Commerce Domain

This technology helps businesses to anticipate the behavior of the consumer. Some most common suggestions are: collaborative filtering (recommendations based on gathered data on user activity), content-based filtering (user-profile-based recommendations) and hybrid filtering of recommendations (combination of the two filtering methods mentioned above)

It operates essentially by filtering data that it utilizes collaborative or content-based filters. The algorithm teaches the client the previous experience of shopping, searching preferences, requirements, etc.

Project Work

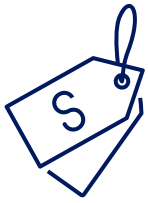
Algorithm for routing the transportation network

Supply Chain Domain

Because of the recent increase in shipping costs due to a container shortfall, optimising the container loading has become a top concern. Transportation expenses are often greater than warehousing costs, thus focusing on it to identify improvement levers makes sense.

A clear understanding of how you plan to move your goods using Data Visualization may result in substantial cost savings.

Optimization of the price



Retail Domain

The optimization methods provide a major benefit in terms of having the appropriate pricing for both the consumer and the store. The process of determining a pricing is influenced not only by the expenses of producing an item, but also by the budget of a typical consumer and the offers of rivals.

The tools for data analysis have elevated this problem to a new levels of relevance. Customers must be segmented in order for the algorithm to determine how they will react to pricing adjustments. As a result, the expenses that fulfil a company's objectives may be established. Retailers may use the concept of real-time optimization to attract consumers, keep their attention, and implement personalised pricing schemes.

Identification of the Reorder Level

Supply Chain Domain

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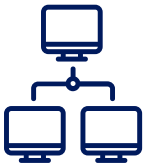
Planning a network



Supply Chain Domain

It is essential to maintain that the inventory facilities and production amenities are all adequately networked in order to have a strong supply chain and a lucrative company. Analytics accounts for the various production facilities and warehouses in the supply chain and how it may influence the demand.

It assists in facilitating flow routes, making it possible to meet diverse client demand at the lowest total cost.

FAQ's

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 to gain Domain Expertise and work on Real - Time Industrial Projects.

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.

How many capstone projects do I need to work?

- You can work on all projects, or depending on your experience and goal. For eg, Having 1-2 yrs of experience you must work on 4-5 projects.

Note: We keep updating trending projects and case - studies as per the market/company requirement. You can also Bring your own project.

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