



# Media, Hospitality and Transportation

*Domain Specialization & Project Expertise*



Domain Specialization elective :

## In Media, Hospitality and Transportation

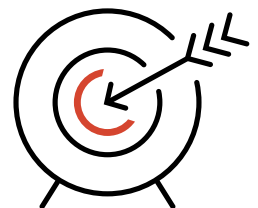
- ✓ Learn how to succeed in an increasingly competitive market with advanced tools and technology by using proven methodology.
- ✓ Master your data analysis skills and create a dynamic dashboard to describe your insights
- ✓ Develop leadership skills by gaining a better knowledge of data and making more 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** from Media, Hospitality or Transportation domain, dreaming of securing a position at the forefront of the same domain practices to add value to both their career and organization.
- **Managers and leaders associated with Media, Hospitality and Transportation** field who want 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 Media, Hospitality or Transportation domain. Or **professionals interested in learning** about the newest technology, data science, artificial intelligence, 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**



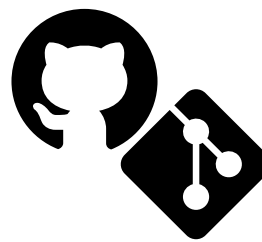
**Deep Learning (Tensorflow)**



**Time Series Analysis & Forecasting**



**Natural Language Processing**



**Git & GitHub**

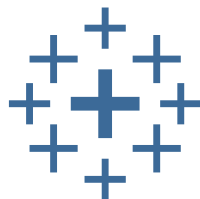


**R Programming**

## TERM 3 & 4



**SQL for Data Science**



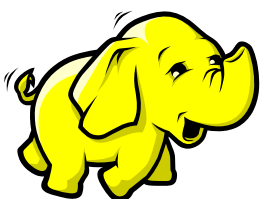
**Tableau**



**Power BI**



**Mongo DB**



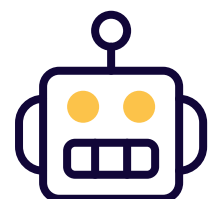
**Hadoop**



**Apache Spark**



**Google Cloud**



**Advance AI**

# Transition Process

**100% Job Referral Guarantee**  
**Capstone Project Certification from IBM**

Work on Real Time  
Projects and **Domain**  
**Specific** Capstone  
project

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

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

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



Candidates signing up for this module can learn to analyze statistical data and understand them with clarity. The most common learning include

- Identifying hotel issues
- Gathering, storing, manipulating data
- Processing data
- Applying algorithms for model selection
- Deployment and security
- Interpretation of data
- Implementation of Data insights
- Taking right business decisions
- Improving business strategies
- Better identification of target audience
- Satisfying the customer needs





# Domain Training

## HOSPITALITY

### Module 1 - Introduction to hotel industry foundations

In this fundamental introductory module, the aspiring candidates would learn about how the hotel industry works, the terminology used in the hospitality sector, the work ethics, the rules and policies adopted by the hotel, the different customer services, and similar other basics.

### Module 2 - Mathematical fundamentals and metrics

In this module, the mathematical and statistical concepts are provided. Learners get to know about the metrics associated with hotels and management. Topics such as competitive set data, Key Performance Indicators, Ranking data, sufficiency, weekly vs monthly, full availability, non-reporting hotels, and similar are discussed.

### Module 3 - Property Level Benchmarking

In this module, topics of STAR report and its details are discussed. It includes a brief introduction to the STAR report, monthly STAR reports, and weekly STAR reports. The additional properties of daily STAR reports, online reporting tool, and raw property and competitive said data files are also described.

### Module 4 - Hotel Industry Performance Reports and Data

This module provides the trend reports on a monthly basis, yearly basis, and every day basis. The total year performance metrics and census are discussed here. It also provides information for samples in a market, sub-market, city, country, and specified set of hotels

### Capstone Projects from Hospitality domain :

- Recommendation system project enables the hospitality businesses to predict the behaviour of the customers. It allows collaborative filtering, content-based filtering, and hybrid filtering. It mostly deals with filtering of data and providing personalisation choices to the users.
- Customer sentiment analysis, this project aids in the mood and emotion analysis of the customers.using sentiment

analysis approach , the viewpoint of customers is comprehended. by processing the language analysis of text, and other techniques help in engaging with the customers.

- Optimization of the price is one of the major domains for expertise since optimization enables the consumer to take interest in the product. Hotels can excessively exploit this tool for offering consumers better offers than rivals and competitions.

### Module 1 - The Importance of Predictive Analytics in the Transportation Sector

- How can transportation authorities learn more about how metro line closures, unusual events like a labour strike, and transit maintenance projects impact public transportation?
- How transportation companies can detect and predict traffic jams, accidents, and vehicle breakdowns, and offer effective solutions.
- How predictive analytics may be used to determine the effect of different development projects and aid in the identification of a replacement project that does not impede mobility.

### Module 2 - Segment-by-segment analysis of multimodal transport systems

- How Data analytics and machine learning models can improve Road Safety Management, Road and Rail Traffic Management.
- How AI-powered machine learning can create prediction models that may help the airport plan and allocate resources more effectively and efficiently.
- How the efficiency of ships will be improved by a variety of tools such as vessel sensors, weather station reports, and satellite reports. Machine learning may be used to analyse the whole data set, and it can also be used to answer the questions, like - How often should the hull be cleaned to save fuel? How often should the ship's equipment be replaced? Which route is the best in terms of weather, safety, and fuel sustainability?

The transportation sector guarantees that people and things are transported **efficiently** and **safely** from one location to another. **Transportation analytics** is being fueled by technological advancements such as **traffic sensors, electronic access, mobility management, and monitoring display systems**. Transportation

Because technological improvements have resulted in a plethora of data sources such as cameras, GPS, and geo-location, **a multi-modal transportation system necessitates systematic data collecting**.

The transportation industry's analysis will have to take into account this diversified data ecology. This vast volume of data can aid transportation industry participants in employing modern analytical approaches such as predictive analytics to **improve efficiency, cut costs, and better serve passengers**.



# Domain Training

## MEDIA

### Module 1 - Introduction to data analytics

In this module, the concepts related to social media data and methods of data analytics are introduced. It starts by describing the structured and unstructured data.

The primary focus is on what to do with the obtained data. Several data visualization and representation topics are covered. The process of installation of python and R along with libraries/package installation process is given in detail.

### Module 3 - Data analysis, visualization, and exploration

This module focuses on data visualization from different social media services and analyzing it for meaningful interpretations. The YouTube statistics analysis is done using correlation and regression. Using the platform R program, statistical analysis will be performed for a larger dataset.

### Capstone Projects from Media domain :

**YouTube trending** video analysis is a project based on identifying the trending YouTube videos and analysing to get insights. It is the most popular and widely used platform hence data sets are available in huge amounts. More than 40,000 trending video data can be extracted to understand the popularity of videos on YouTube.

### Module 2 - Social media data collection and extraction

This module clearly describes methods to collect data from different social media platforms such as Twitter, YouTube, Facebook, and similar others.

It begins with a brief introduction to python programming, using python script, and editing. It also guides on creating developer accounts and extracting data collection APIs.

### Module 4 - Case Studies

The final module of this domain includes case studies using twitter. It focuses mainly on unstructured data.

Performing sentiment analysis with python and text mining using R application are the main focus of this module.

**Facebook post sentiment analysis** is a project based on analyzing the expressions and opinions of Facebook users.

Since it is a free platform for users to share their opinion, analyzing the sentiments is possible.

Using the python program, the downloaded data can be analyzed for identifying the sentiments.

## Ola/Uber Taxi Demand Prediction

### Transportation Domain

The taxi (ride-hailing) sector has been expanding in recent years and is projected to continue to expand in the near future.

Taxi drivers must decide where they will wait for passengers so that they can arrive soon. When necessary, passengers also choose a speedy cab service.

We've all had issues with taxi booking requests that were either unable to be fulfilled or resulted in a lengthy wait for a journey owing to a lack of local taxis.

If you are able to reserve a taxi in one go, consider yourself fortunate.

Taxi demand forecasting has become critical for taxi (and e-hail) businesses to better assess demand and manage their fleets.

To address these concerns, we'd create a model based on the dataset of users' ride requests, which would include parameters like ride booking time, pickup point, and drop point latitude-longitude.

This model would estimate demand for a specific time period in various parts of the city, allowing the operator to better concentrate taxis to meet customer demand.

## Road Safety Management

### Transportation Domain

Accidents can be investigated using advanced data to determine where, why, and when they occur.

Companies can use this information to develop Prognostication Crash Maps, which analyse data to identify high-risk zones.

These maps can be used to offer cautions to be particularly cautious in these areas and to assist authorities in taking preventative measures.

## Air Traffic Management

### Transportation Domain

Huge queues are one of the most aggravating aspects of flying.

Advanced analytics, on the other hand, can enable airport staff readily visualise the busiest moments for their security checkpoints by accessing data from those passing through the facility.

Machine learning enabled by AI can build prediction models over time, can help the airport authorities to strategize and allocate resources more effectively.

# Project Work

## Netflix Movies and TV Shows

### Media & Entertainment Domain

Explore what all other insights can be obtained from the list of tv shows and movies available on Netflix as of 2019.

Understanding what content is available in different countries Identifying similar content by matching text-based features Network analysis of Actors / Directors and find interesting insights.

## Trending YouTube Video Statistics

### Media & Entertainment Domain

The dataset of this project are daily record of the top trending YouTube videos, to generate insights like :

Sentiment analysis in a variety of forms Categorizing YouTube videos based on their comments and statistics Training ML algorithms like RNNs to generate their own YouTube comments.

## Hotel Energy Consumption Management

### Hospitality Domain

Hotels are using cloud-based tools to improve their energy efficiency.

IoT-enabled smart energy management technologies collect real-time energy usage data and monitor temperature, humidity, air pressure, and air quality inside the building.

Weather data and utility rates can be tracked, and occupancy can be monitored to alter the work of HVAC (heating, ventilation, and air conditioning) and lighting systems.

As a result, these systems provide energy use patterns – energy profiles – to property owners.

Hoteliers can utilise the information to figure out where they can save money by using less resources to meet their energy efficiency targets.

Data may frequently be accessed from both a desktop and a mobile device.

## Airbnb New User Bookings

### Hospitality Domain

Airbnb New User Bookings  
The goal is to predict which country a new user's first booking destination will be.

By accurately predicting where a new user will book their first travel experience, Airbnb can share more personalized content with their community, decrease the average time to first booking, and better forecast demand.



# 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.



Stay updated with newest content (Infographics, Interview Q&A, Job Updates and more) on Data Science and AI.



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