

Manufacturing Domain

Domain Specialization &
Project Expertise



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Domain Specialization elective :

Manufacturing



6 Industry
Relevant Projects

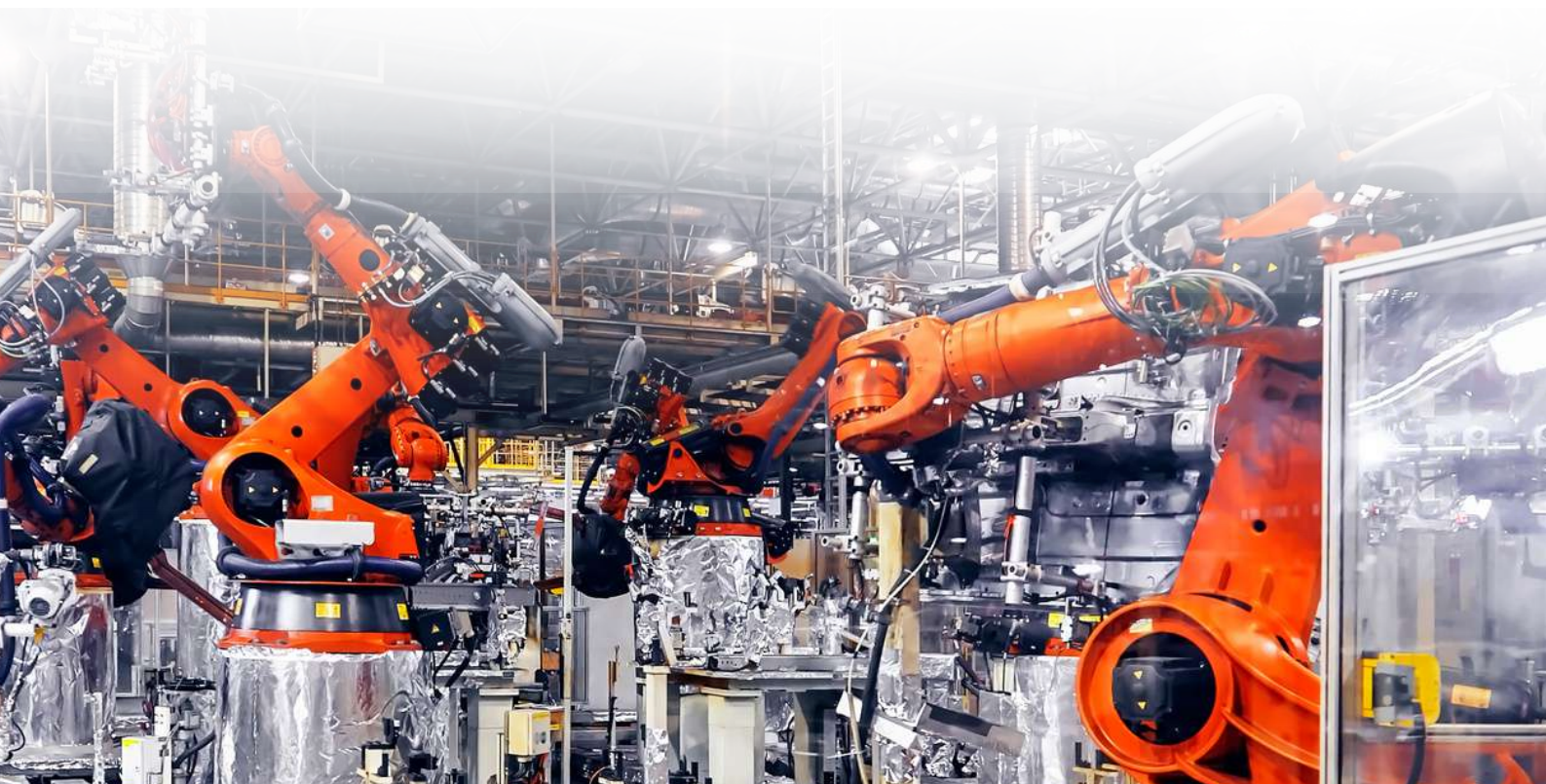


20+ Case Studies
& Assignments



100% Interview
Guarantee

- ✓ Achieve success in a tough market using cutting-edge tools and technology with a proven approach.
- ✓ Become a data analysis expert and craft a lively dashboard to showcase your valuable insights.
- ✓ Enhance leadership abilities by understanding data and making informed decisions about customers, products, and teams.



Who Can Apply?

Executive level Professional

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

Professionals interested in Manufacturing Sector

Aspiring individuals interested in the manufacturing 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



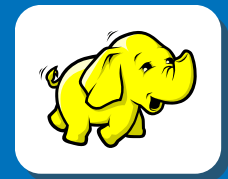
R



MongoDB



Tensorflow



Hadoop



Apache Spark



Azure



Git



GitHub

Transition Process

Transforming 35k+ careers with staggering 250% salary boosts and an exceptional 175% average hike.



What Will You Learn?

The process of manufacturing products through the use of labor, machinery, tools, and chemical or biological processing or formulation is called manufacturing. Secondary sector of the economy refers to human activity from handicraft to high-tech, which is the most frequently used word in the context of industrial design. More sophisticated items, such as aero planes, home appliances, furniture, sports equipment, or cars, may be made from these commodities.

Companies in the communications industry make communication possible regardless of how it is accomplished—whether via phone lines, the Internet, broadcast frequencies, or wires. In order to facilitate sending data in text, speech, audio, or video, these businesses built the necessary infrastructure.



**Project Life Cycle
Expertise** with 2
Capstone Projects

A complete listing of the major service businesses includes both telecommunications (wired and wireless) operators, such as satellite and cable companies, as well as Internet service providers.

Mechanical engineering is one of the oldest and broadest of the engineering disciplines. While mechanical engineering has many specialised topics that need in-depth knowledge, these areas provide the foundation for the profession and provide the necessary foundation for all mechanical engineering pursuits. To assist them in their efforts, mechanical engineers use technologies such as computer-aided design (CAD), computer-aided manufacturing (CAM), and product lifecycle management (PLM). Machinery design, manufacturing, and operation are all examples of machine design.

Domain Training

Module 1

Introduction to Advance Manufacturing Process Analysis

Learn Text mining, AI-driven automated quality assurance, and video analytics to track attendance and behavior are all topics covered.

Understand the principles of Industrial Revolution 4.0 (IR 4.0) and its potential, as well as wireless sensor networks, the purpose of IoT sensors, and manufacturing wireless sensors.

This subject provides you with in-depth knowledge of Big Data and its applications in manufacturing. Students will learn about Hadoop, data collecting, storage, and processing, as well as important technologies like Spark and Hadoop and much more.

- How data is collected in different manufacturing settings, understanding Discrete part manufacturing and Continuous manufacturing.
- Sensitivity Analysis, Anomaly Detection, HPC & Cloud Computing.
- Determination of Significant Variables/Factors, Computing Platform, Components, Categories, and Capabilities.
- Advanced Manufacturing Analysis.

Domain Training

Module 2

All Around Mechanisms

This gives a brief introduction It may span numerous modules, and the goal is for you to be able to understand the processes at a glance before diving into the components of process technology modelling.

This course might be intended to provide insight into process designers, and it would essentially be a parametric analysis of all these diverse processes.

- Mechanisms and Machines
- Kinematics and Dynamics
- Fabrication Design with Solid Works
- Fixturing
- Module Design with Solid Works

Module 3

Telecommunications

- Here You'll Analyze the Telecom Industry's Transformation Using Big Data Analytics.
- How network performance measurement helps to improve service quality.
- Apply some telco practices to other industries, such as retail, FMCG, and banking.
- Learn how telcos are using Big Data Analytics to better analyze subscriber behavior using both internal and external data.
- Introduction to Telecommunication Industry
- Data Types and Data Extraction using Hadoop
- Data Transformation
- Clustering
- Data Interpretation
- Telco's extracting value

Domain Specialized Projects

Manufacturing Domain



Bosch Production Line Performance

To predict internal failures using thousands of measurements and tests made for each component along the assembly line.

This would enable Bosch to bring quality products at lower costs to the end user. The goal is to predict which parts will fail and control the quality.

Manufacturing Domain



Fault Prediction and Preventive Maintenance

In modern manufacturing, there are very few crucial cells or machinery on which production is dependent. Real-time monitoring data can be studied further to prevent equipment failure and improve asset management.

To produce these forecasts, data scientists use the machine's expertise and take note of the reasons why it might fail.

In big data manufacturing, process data revealing varying vibration and temperature is used to anticipate a machine's breakdown in advance. By comparing deviations to machine settings for optimum performance, engineers can be alerted to take preventative actions as needed, allowing manufacturers to avoid catastrophic failure.

This is how data science is redefining design and optimization in some of today's most advanced manufacturing facilities.

For the manufacturing industry, the utilisation of real-world data to assess the impact of new technology, designs, and machinery on production has proven revolutionary.

Domain Specialized Projects

Mechanical Domain



Working towards creating Smart Factories by Automation & Robotisation

The enormous push toward automation necessitates a significant investment. System integrators and engineers all across the world are charting their course, using advances in data science as a roadmap to more efficient resource allocation and significant productivity benefits.

Data scientists use predictive and analytical methods to identify the most cost-effective cost-cutting opportunities.

The information is then utilised by engineers in their work, helping manufacturers to make the best decision possible when investing in robotics and automation technology.

Mechanical Domain



Designing and Developing Product

- Data science can be used to validate material design and decisions by assessing client needs and preferences.
- One of the most important services supplied by contract manufacturers is product development.
- Their product designs and functionalities must appeal to their customers' preferences and needs.
- Data science technologies are frequently used to find the best approach to manufacture an item to meet the specific needs of a consumer or a set of customers.
- Data science can also be used to study consumer preferences and market trends while developing a new product or improving an existing one.
- Product marketers can leverage actionable information from consumer feedback to enhance products in order to meet customer needs and benefit the manufacturers.

Domain Specalized Projects

Telecom Domain



Identify And Predict Customer churn in telecom industry

The goal is to develop a churn prediction model which assists telecom operators to predict customers who are most likely subject to churn.

Also to understand the customer behavior and reasons for churn.

Apply multiple classification models to predict the customer churn in telecom industry.

Telecom Domain



Fraud Detection

The telecommunications business, which attracts the largest number of customers on a daily basis, is a broad arena for fraudulent activity. Illegal access, authorization, theft or fake profiles, cloning, behavioral fraud, and other types of fraud are the most common in the telecom industry.

Fraud has a direct impact on the relationship that has been created between the business and the user.

As a result, fraud detection systems, methods, and tactics have become commonplace.

You can prevent fraud by using unsupervised machine learning algorithms on a massive quantity of customer and operator data to recognize the features of legitimate traffic.

The algorithms identify anomalies and offer them to analysts in real time as alerts using data visualization tools. This technique has a high level of efficiency because it enables for a near-real-time response to suspicious activities.

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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