Exploratory Data Analysis, Visualization and Storytelling

Explore Data to Gain Insights – Jobs of the Future

With the rapid proliferation of digital data, it is an imperative that individuals & organizations make data-based decisions to succeed in a hyper-competitive environment. Students aspiring to do well in a modern workplace need to ramp-up their analytical skills and be able to extract, explore, organize, process, transform, and interpret data to generate meaningful insights that can help effective decision making. In addition to the technical skills, they also need to help visualize the data & insights impactfully and be able to tell compelling stories that help accelerate decision making.

Data analytics is a foundational digital skill that undergraduate students should acquire. It enables the pursuit of many different career paths and is a key competency in any managerial & leadership role. Overall, this program supports the Vision 2030 for KSA, which is focused on preparing young men and women for the jobs of the future.

Program Outline & Highlights

This digital skilling program helps learners build a strong data analysis foundation. They are introduced to the practical applications of statistical tools to analyze data and are encouraged to visualize data using appropriate graphs, charts, and pivot tables in Excel. Learners get to combine data, visuals, and narrative to tell a story that is revealed through their analysis.

Learners will gain the skills to perform exploratory data analysis to understand the data, describe the problem with data points, identify trends, explore patterns, capture any relationships, and help interpret the data better. Operational data from different domains is used to expose learners to a variety of datasets encountered in real-life situations.

This program will help learners as they progress through their academic journey and will lay the foundation of an important digital skill that will be of immense value in their professional lives.

Program Duration

This program requires 80 hours of learning effort. The program is scheduled over 8 weeks to make it convenient for students to take it up along with other academic work. In each week, learners need to spend 10 hours of learning effort to attend two sessions of two hours each and complete the hands-on assignments. Additionally, learners can use the Office Hours of (2 hours) scheduled each week to clarify any doubts with the mentor.

Exit Profile

Learners will acquire exploratory data analysis skills that they can use in varied scenarios viz., personal, business, finance, sports, science, entertainment, healthcare, etc.

On successful completion of all the challenges, each learner will be able to:

» Analyze discrete and structured data using Excel
» Apply descriptive statistical tools and techniques
» Summarize and represent data visually using graphs & charts
» Create data dashboards using Excel
» Perform exploratory data analysis and do data-based story telling

Who Should Attend?

This program from NIIT StackRoute, brought to you by Prince Sultan University (PSU), is open to learners from all undergraduate disciplines who can communicate effectively in English and can work comfortably on their PC with common productivity tools and use the Internet.

A working knowledge of spreadsheets using Microsoft Excel is required. No other background in data analytics is required, except for curiosity & a determination to persist with the interesting yet challenging hands-on exercises & assignments.

StackRoute Learning Cycle

StackRoute courses emphasize self-learning facilitated by personalized coaching, mentoring, review, feedback & deliberate practice. The course is practice based i.e., learners learn by doing things rather than by watching videos or by attending traditional lectures.

The course focuses on competency development. Each course has a collection of "learning sprints." Each sprint typically requires a 10 hours of learning effort. Each learning sprint is mapped to a distinct task and is built around a challenge that validates a learner's ability to perform that task effectively.

Program Coverage – Learning Sprints

Participants learn & apply increasingly difficult concepts to challenges. We believe [learning] happens through this process of making mistakes, dealing with consequences, receiving feedback, and refactoring to improve. The course focuses on competency development. Each course has a collection of "learning sprints." Each sprint typically requires 10 hours of learning effort. Each learning sprint is mapped to a distinct task. It is built around a challenge that validates a learner's ability to perform that task effectively.

The program consists of the following sprints with the indicative challenge to demonstrate the skills gained

#	Sprint Name	Sprint Objectives
1	Perform Data Analysis	Analyze the data of a computer games company to identify the region wise market share
2	Measure Central Tendencies using Statistical Techniques	Statistical analysis of the sales of a gaming company based on the measures of central tendency.
3	Data Visualization using Excel	Analyzing and comparing the passenger cars from various manufacturers, based on the car specifications.
4	Measuring the Spread and Correlation of Data	Statistical analysis of passenger car data from various manufacturers based on the measures of correlation and measures of variation.
5	Storytelling using Data	Building a dashboard for HR analytics to analyze the hiring demands of an IT company.
6	Perform Exploratory data analysis 1	Perform exploratory data analysis on employee attrition data to identify the factors affecting the employee attrition.
7	Perform Exploratory data analysis 2	Perform exploratory data analysis on the customer churn data of a bank.
8	Perform Exploratory data analysis 3	Perform exploratory data analysis on a grocery store dataset and present the results visually using graphs and charts.

About NIIT StackRoute™

NIIT Limited is an Indian multinational skills and talent development corporation headquartered in Gurgaon, India. The company was set up in 1981 to help the nascent IT industry overcome its human resource challenges. Established in August 2015, StackRoute® is an NIIT-incubated venture. StackRoute runs immersive bootcamp programs that deliver job-ready professionals with deep skills. Our distinctive implementation of mastery learning combined with personalized tutoring allows us to guarantee learning outcomes. Our graduates confidently take on challenging assignments in the context of digital transformation. Several large global IT organizations, Global Incubation Centers, Product Engineering teams, and Universities trust StackRoute programs to transform their own employees' or students' digital skills. As a digital talent transformation partner, StackRoute programs transform over 20,000 professionals in India each year. In the USA, StackRoute Learning Inc., an NIIT company, partners with educational institutions across North America to offer University-branded online bootcamp programs to students who wish to upskill or reskill for better employment. In its 21 years in China, NIIT China has worked with over 100 Chinese universities.