# CERTIFICATION IN
# PROGRAMMING ESSENTIALS & VISUALIZATION FOR DATA SCIENCE

*Offered by*

**CHRIST**
(DEEMED TO BE UNIVERSITY)
LAVASA, PUNE, INDIA

*In Collaboration with*

**EDUEDGE PRO**
GLOBAL EDTECH INSTITUTION
FINTECH | ANALYTICS | INVESTMENT BANKING | CAPITAL MARKET

*Industry Partners, Certifications & Collaborators*

+ableau
**CERTIFIED ASSOCIATE**
Consultant
**PARTNER CERTIFICATION**

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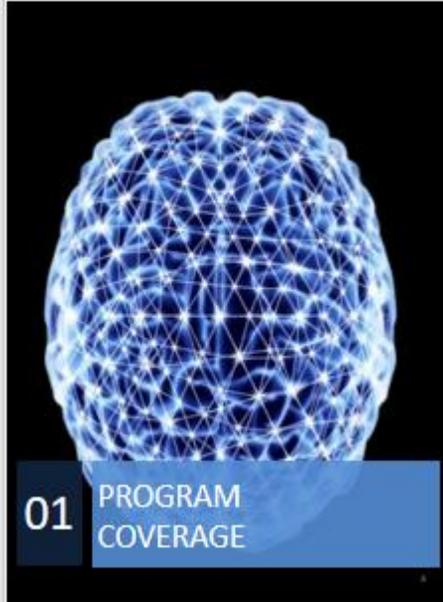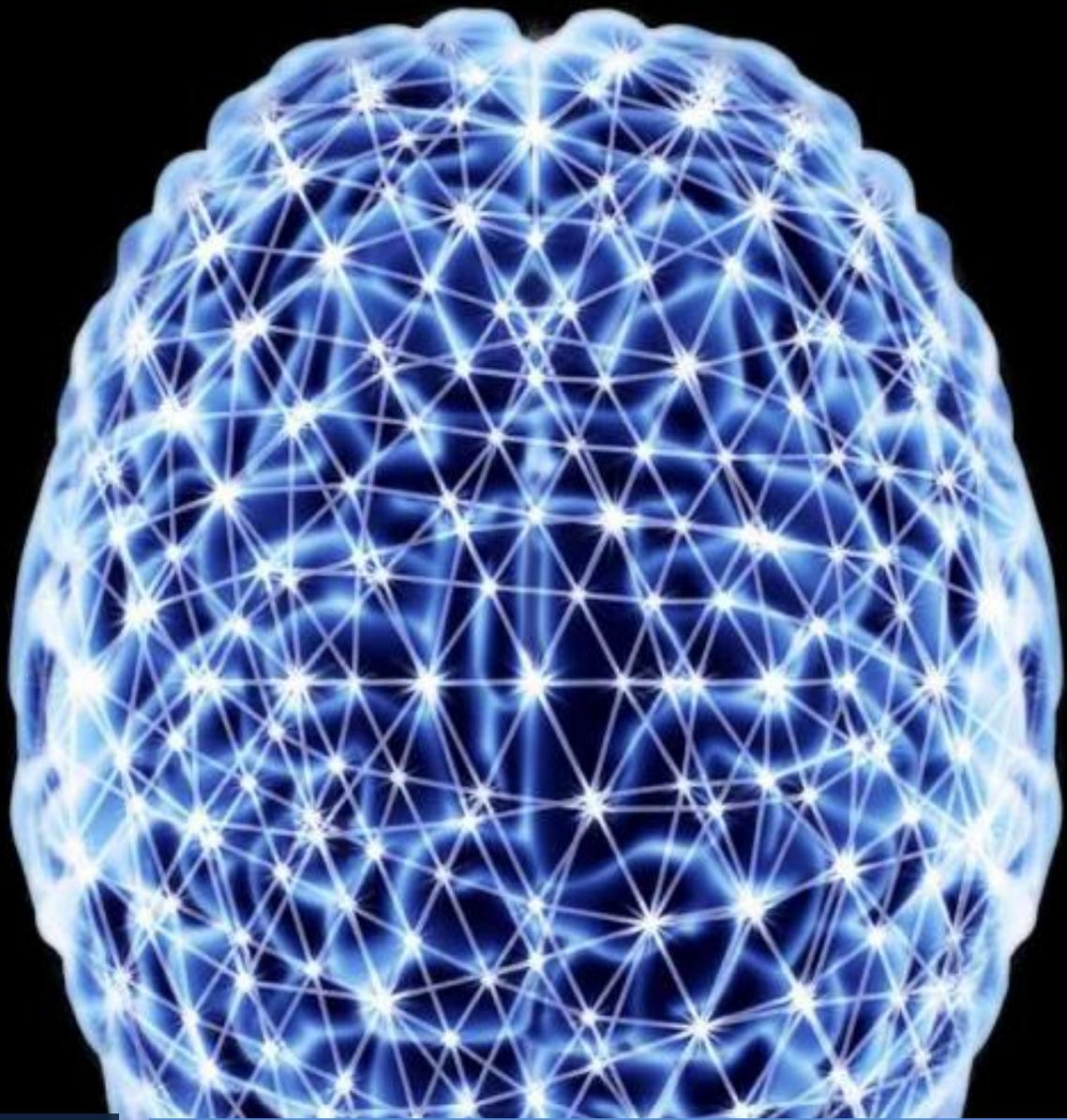
# 01 PROGRAM COVERAGE

## About the Program

The Certification in "Programming Essentials and Visualization for Data Science" is being offered by Christ University, in collaboration with industry partners/collaborators EduEdgePro Pvt Ltd.

This course will help you learn important concepts related to Python Programming Essentials, Python Data Representations, and Python Data Analysis. You will not only learn how to install external packages for use within Python, acquire data from sources on the Web but also specialized visualization tools, including pie charts, box plots, scatter plots, and bubble plots. You will also explore how to wrangle data from diverse sources and shape it to enable data-driven applications.

This course makes you certify Tableau Expertise and advance your career with "Tableau Desktop Certified Specialist" certification from Tableau.
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# PLATFORMS
## YOU WILL LEARN

**Learn Platforms**

python

NumPy

ggplot2

plotly

pandas

jupyter

SciPy

matplotlib

+ableau

R

Power BI
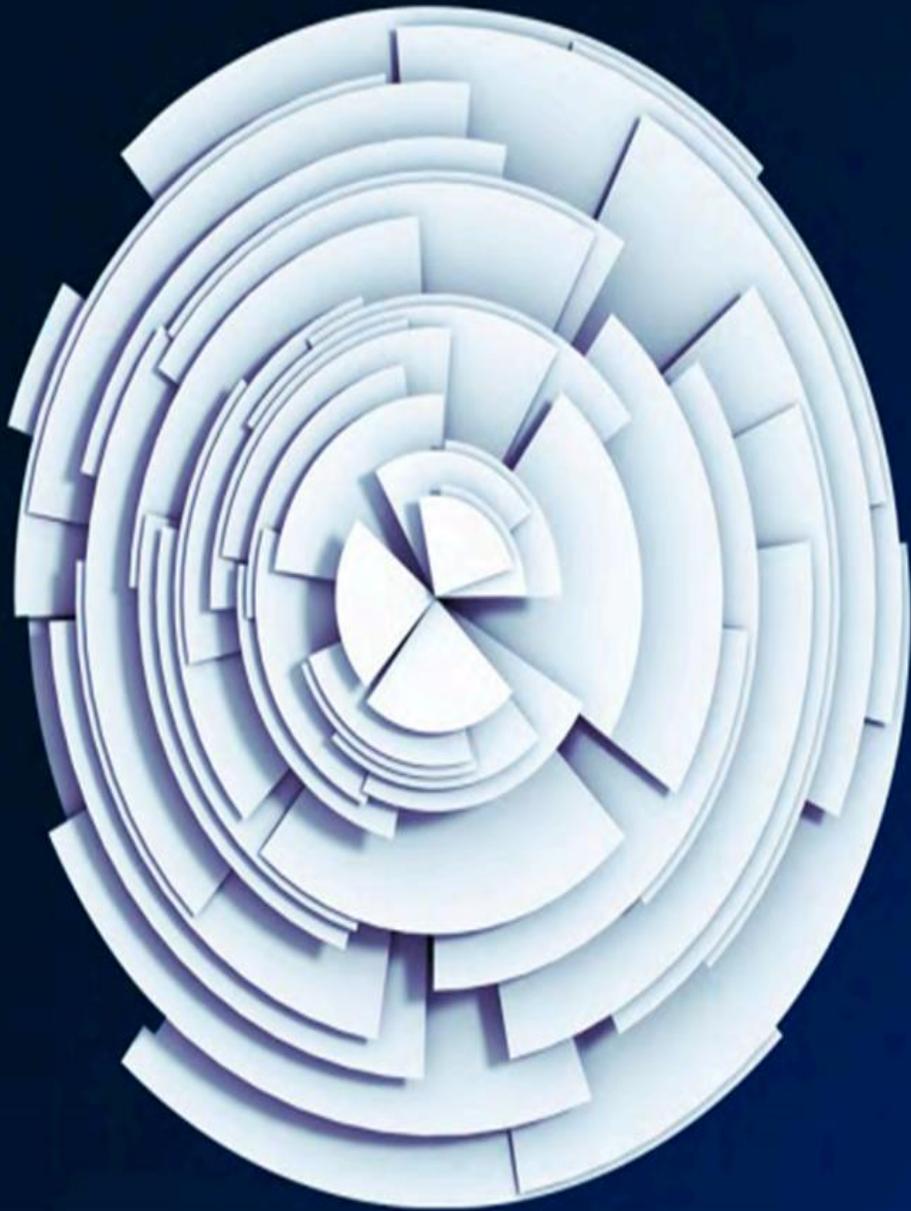
# 02 WHY THIS PROGRAM

# DATA VISUALIZATION

**Data visualization** helps to tell stories by curating data into a form easier to understand, highlighting the trends and outliers. A good visualization tells a story, removing the noise from data and highlighting the useful information.

**Why data visualization is important for any career ?**

Skill sets are changing to accommodate a data-driven world. It is increasingly valuable for professionals to be able to use data to make decisions and use visuals to tell stories of when data informs the who, what, when, where, and how.

**Who Uses Data Visualization?**

Data visualization is used across all industries to increase sales with existing customers and target new markets and demographics for potential customers. The World Advertising and Research Center (WARC) predicts that in 2020 half of the world's advertising dollars will be spent online, which means companies everywhere have discovered the importance of web data.
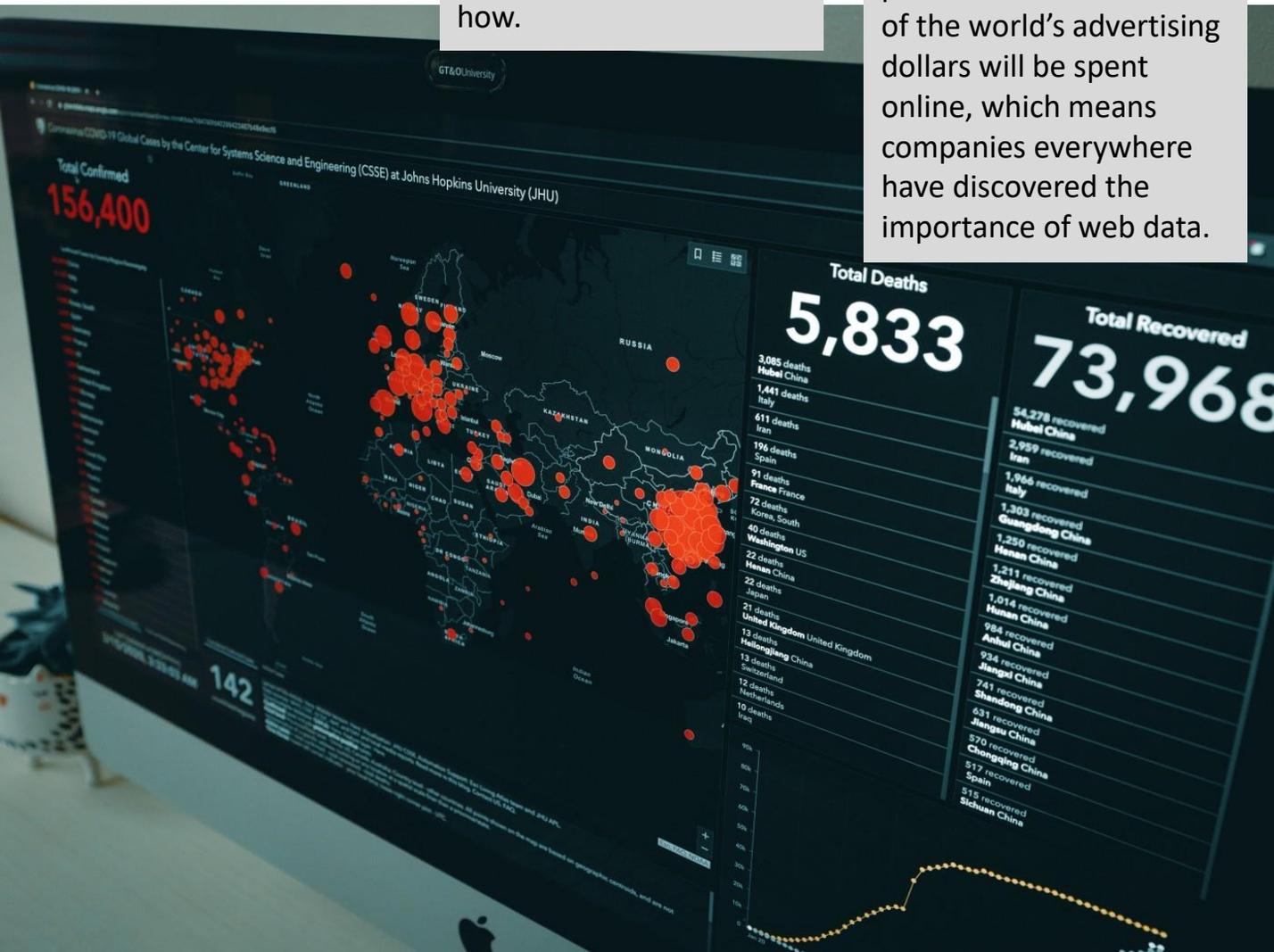
**PROGRAMMING ESSENTIALS AND VISUALIZATION FOR DATA SCIENCE**

**APPLIED STATISTICS FOR DATA SCIENCE USING R/PYTHON**

**MACHINE LEARNING AND PREDICTIVE MODELLING FOR DATA SCIENCE**

**APPLIED BUSINESS ANALYTICS**

**APPLIED BIG DATA ANALYTICS**

1

2

3

4

5

**CERTIFICATIONS**

**ROADMAP**

Positioning of this certificate program in broader PG Diploma Program

# PROGRAMMING ESSENTIALS AND VISUALIZATION FOR DATA SCIENCE

1

## Tableau Desktop Certified Specialist

This certificate is for those who have foundational skills and understanding of Tableau Desktop and at least three months of applying this understanding in the product.

Tableau Certification Will Be Relevant in Business Intelligence and Visualization. All-Inclusive Bundle To Help You Amplify Your Skills and Get Certified.

Become an expert in Data Analysis. Business Analytics. Business Dashboards. Data Visualization. Drag & Drop Reporting. Data Discovery.

Tableau Software is proud to award the title of

**Tableau Desktop 8 Certified Professional**

to

## DONABEL SANTOS

in recognition of successful completion of the
certification requirements for Tableau Desktop 8

DATE OF COMPLETION: 11.September 2013

PAUL SOCHAN, DIRECTOR OF TRAINING
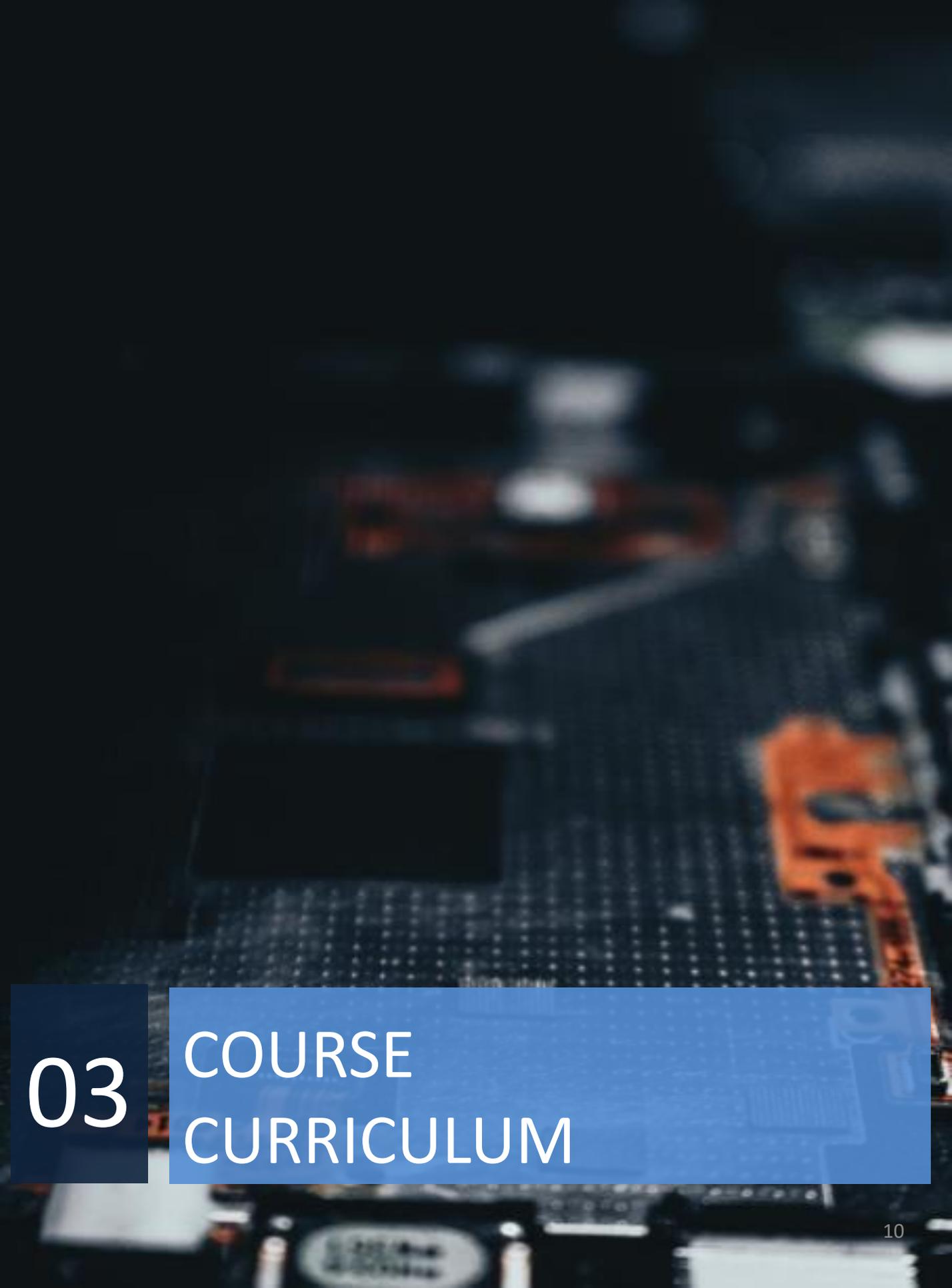
**03** COURSE CURRICULUM

# COURSE CURRICULUM

**PYTHON ESSENTIALS**

**DATA CLEANING**

**DATA SCIENCE OPERATIONS**

**DATA VISUALIZATION**

**DATA SCRAPPING, WRANGLING**

### Module 1
Introduction to Python IDE's, Concept of Packages, Data Types & Data objects, Basic Operations, Control flow & conditional statements, Python Built-in Functions

### Module 2
Sub Setting / Filtering / Slicing Data, Using indexing, Using functions, Mutation of table, Binning data, Renaming columns or rows, Type conversions, Setting index, Handling duplicates /missing/Outliers, Creating dummies from categorical data, Data manipulation tools

### Module 3
What is NumPy?, Overview of functions & methods in NumPy, Data structures in NumPy, Creating arrays and initializing, Reading arrays, Slicing and indexing, Combining arrays, What are pandas, Pandas Data Structures (Series & Data Frames), Functions & methods,

### Module 4
Introduction to Matplotlib, Basic Plotting with Matplotlib, Line Plots. Simple to complex visualizations Advanced Visualization Tools

### Module 5
Data Scrapping, Finding data across sources, Querying an API directly Stocks, Weathers etc., Browser-based Scrapping, Scrapping tables such as Wikipedia/IMDB, Data Wrangling, Integrating data

## INDUSTRY CURRICULUM

This certificate is for those who have foundational skills and understanding of Tableau Desktop and at least three months of applying this understanding in the product.
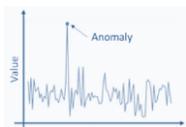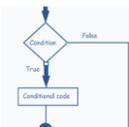
**CREATE YOUR FIRST VISUALISATION**

**Module 1**
- Create and save data connections
- Modify data connections
- Manage data properties

**EXPLORING & ANALYZING DATA**

**Module 2**
- Create basic charts
- Organize data and apply filters
- Apply analytics to a worksheet

**SHARING INSIGHTS**

**Module 3**
- Format view for presentation
- Create and modify a dashboard

**UNDERSTANDING TABLEAU CONCEPTS**

**Module 4**
- Dimensions and measures
- Discrete and continuous fields
- Aggregation

**TIMELINES**

**Module 5**
- Completing a task effectively and efficiently has become a standard that organizations expect from employees. This exam is timed because we view time as a critical competency needed to be successful.

# Tableau Desktop Certified Specialist

tableau

**CERTIFIED** ASSOCIATE

Consultant

**PARTNER CERTIFICATION**

04 PROGRAM DETAILS

## PROGRAM HIGHLIGHTS

## PEDAGOGY

### Program Coverage

This course will help you learn important concepts related to Python Programming Essentials, Python Data Representations, and Python Data Analysis. You will not only learn how to install external packages for use within Python, acquire data from sources on the Web but also specialized visualization tools,.

### 3-Months Weekend Program

The Program would be offered on the weekends to enable optimal learning to those participants who are working in the Industry

### Industry Partners

Our industry partners would provide you the appropriate domain and industry expertise to data visualization challenges in the real world

### Careers and Placement help

Our program would fast track your career progression Visualization for Data Science through our dedicated Placement Assistance and Industry Networking

### Blended Learning

The Program would offer an optimal blended mix of On campus bootcamp sessions, online sessions, self-paced sessions to maximize learning

### Project & Live Lab

The Project gives you the opportunity to apply programming Essentials and Visualizations concepts

### Industry-oriented curriculum

Industry focused curriculum offered in a flexible online blended interactive format that works for busy professionals

One of the first institutions in India to be accredited in 1998 by the NAAC, and subsequently in 2004 and 2016, CHRIST University has the top grade 'A' in the 4-point scale. It has consistently ranked among the top ten for UG courses in surveys done by the India Today group, having specialized program offerings across Data Science, Analytics, Capital Markets, and FinTech.

The multi-disciplinary University which focuses on teaching research and service offers Bachelors to Doctoral programs in Humanities, Social sciences, Science, Commerce, Management, Engineering, Education, and Law to over 25000 students.

United Nations Academic Impact (UNAI) membership has added Christ University to the UNAI team of 1470 institutions in 146 countries, who are working with the United Nations to promote global priorities, including peace, human rights, and sustainable development.



EDUEDGE PRO is an EdTech initiative, founded by Mr. Harjeet Singh, a Stanford Alumnus and Financial Mathematician.

EduEdge Pro provides Skill Development and Skill Enhancement education in specialized domains within BFSI, Data Science, Analytics, FinTech, Capital Markets and Algorithmic Trading in order to bridge the gap between academia training and industry needs and to provide Upskilling.

EduEdge Pro conducts corporate training programs for leading global investment banks, asset management firms, financial institutions, exchanges and brokerage houses.

It works with leading educational institutions and universities in providing end-to-end solutions such as Centre of Excellence, Financial Research Lab and Specialization Curriculum Tracks.

# PROGRAM
# PARTNERS

# PROGRAM
## CHAIR



## HARJEET SINGH
**Program Chair**

Harjeet has been a serial entrepreneur in FinTech, EdTech and Capital Markets and is a Financial Mathematician and Alumnus of Stanford University. He has a rich and varied experience in Global Markets & Risk, Investment Management, Sales & Trading, Algorithmic Trading, Quantitative Finance and Management Consulting across international financial institutions, banks, MNCs such as Morgan Stanley, Nomura, Standard Chartered Bank, Merrill Lynch and Accenture Consulting.

He is the Founder-Director, Global CIO and Board Member of Stelios Asset Management, a global Hedge Funds across India, Mauritius and Dubai. He is also Founder-Director of EduEdge Pro, a leading EdTech company. He is a leading industry expert in Algorithmic Trading, FinTech and Analytics. He also consults the Ministry of Finance on matters related to policy frameworks in Capital Markets

### Global Charters
He has received the CFA, FRM, CAIA and PRM International charters and is a member with international associations such as CFA Institute, Global Association of Risk Professionals (GARP), Chartered Alternative Investment Analyst Association (CAIA Association) and Professional Risk Managers' International Association (PRMIA).

### Asset Management Business
He is currently the Global CEO, CIO and Board Member of Stelios Asset Management Pvt Ltd. Founded in 2019, STELIOS Asset Management has received Series A international VC funding for setting up global Hedge Funds as well as onshore/offshore India-focused Hedge Funds. He has received Investment Manager licences to start hedge funds across India, Mauritius and Dubai. He holds a SEBI-registered AIF CAT III license for a long/short Equity fund in India.

### Consultant to Ministry of Finance
He is also consulting the Department of Economic Affairs – Ministry of Finance in Capital Markets Policy Formation.

### EdTech Initiative
He is the Founder-Director at EduEdgePro Pvt Ltd. EduEdgePro is an EdTech initiative, founded by Harjeet as part of a Family office initiative. EduEdgePro provides Skill Development and Skill Enhancement in BFSI and Analytics in order to bridge the gap between academia training and industry needs. It runs B2B programs with leading corporates and educational institutions/universities across India. EduEdgePro has conducted specialized domain training sessions in Capital Markets and Analytics for Exchanges, Regulators, Asset Management firms, Banks, Financial Institutions, Universities such as Securities and Exchange Board of India (SEBI), Multi Commodity Exchange (MCX), National Stock Exchange (NSE), Invesco Asset Management, Prudential Asset Management, JP Morgan Asset Management, Nomura, Morgan Stanley, Christ University and National Institute of Securities & Markets (NISM).
EduEdgePro has collaborated with industry partners such as Moody's Analytics, Bloomberg, CISI and MCX to provide industry-relevant certification training and programs.

### FinTech Initiative
His other firm, QRAC Pvt Ltd, is an Indian FinTech company, founded by Harjeet as part of a Family office initiative. QRAC houses a Quantitative Investment Research division that specializes in building Quantitative Investment Strategies across global equities, commodities, currencies and fixed income for Institutional Advisory portfolios.

# ELIGIBILITY
## CRITERIA

### EDUCATION

10+2 aspiring candidates of any educational background with an analytical frame of mindset are most suited one to pursue visualization for Data Science certifications.

### WORK EXPERIENCE

Work experience is not mandatory.

However it is desired that you have internship or full-time experience so that you can move up the learning curve faster through prior industry domain knowledge.

### PROGRAMMING EXPERTISE

It is not required to have a Programming background, although desirable.

However, those without Programming background will undergo Pre-requisite training on Programming to accelerate the learning when the Program begins.

# SELECTION &
# ADMISSION PROCESS

## Application Process

The Application process consists of a few simple steps as shown below. An offer of admission would be made to the selected candidates and accepted by the candidates by paying the admission fee.

**1** ▶▶ Program Counselling

**2** ▶▶ Application

**3** ▶▶ Interview

**4** ▶▶ Documentation

**5** ▶▶ Payment Processing

**6** ▶▶ Confirmation

## STEP 1
### PROGRAM COUNSELLING

We have a dedicated admission counsellor who are here to help guide you in applying to the program. They are available to:
- Address questions related to application.
- Assist with Financial Aid (if Required)
- Guide career role and opportunities after certified.
- Help you to understand the program detail and pedagogy.

## STEP 2
### APPLICATION PROCESS

- Complete your application to kick start the admission process.
- Rate your various skills of OOPs language, quantitative and logical ability.
- Submit application fee: ₹ 500/-
- Submit the form successfully and scheduled your interview with us.

## STEP 3
### INTERVIEW PROCESS

- Interview is with admission committee, who will review the candidate profile.
- Selection will be determined on the basis of academic records, work experience, test scores and interview.
- Upon qualifying a confirmation letter for admission to the PG Diploma in Data Science will handover to the candidate.

# SELECTION &
# ADMISSION PROCESS

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| 1 ▶▶ | 2 ▶▶ | 3 ▶▶ | 4 ▶▶ | 5 ▶▶ | 6 ▶▶ |
|---|---|---|---|---|---|
| Program Counselling | Application | Interview | Documentation | Payment Processing | Confirmation |

## STEP 4
### DOCUMENTATION

After interview on the basis of confirmation letter , the required papers mentioned in the mandatory list of documents as per eligibility criteria. You would be required to submit your marksheets, education certificates, work experience proofs amongst other necessary documents.

## STEP 5
### PAYMENT PROCESSING

Block your seat with the initial amount of fees and begin with your prep course and start your Data Science journey.

Full or annual program fee to be deposited within 1 week of offer  letter / program start – whichever is earlier.

## STEP 6
### CONFIRMATION

Your admission will be confirmed  basis the selection procedure, document authentication and fee payment.

A welcome letter, ID card, student  number and portal access will be  shared upon successful completion of the admission process.

# PROGRAM
# FEES

**PROGRAM FEE**
Application fee: INR 500 plus GST
Indian participants: INR 30,000 plus GST
International participants: USD 2500 plus taxes

**FINANCING OPTIONS**
Please get in touch for further details

**SCHOLARSHIPS**
Existing Christ students and Alumnus: Available
Other participants: Available on outstanding merit record

**CORPORATE DISCOUNTS**
Available on nominations of 2+ participants
Kindly contact us for further details