

The Future of Technology is Here



INDUSTRIAL AUTOMATION
BUILDING MANAGEMENT SYSTEM
DIGITAL MARKETING
INFORMATION TECHNOLOGY
EMBEDDED & IOT PROGRAMS
ARTIFICIAL INTELLIGENCE &
MACHINE LEARNING

ABOUT IPCS GLOBAL

IPCS Global's research oriented and progressive training approach offers perfect Digital solutions to a vast array of industries. IPCS marked as one of the best technical Training Provider in India; provides training to Corporate Companies, Colleges & Individuals on Industrial Automation, Building Management Systems, CCTV & Security Systems, Embedded Systems, Digital Marketing, Information Technology, Python & Data Science & much more. The vast technical expertise makes sure that our students are achieving the best results in training, customer services & placements.



**WINNER OF
SILICON INDIA AWARD FOR
BEST TECHNICAL TRAINING
INSTITUTION IN INDIA**



13+
Years of
Service



10000+
Students
Trained



6000+
Placed
Candidates



300+
Corporate
Trainings



500+
International
Students



06+
Streams
Expertisez



AN ISO 9001:2015 CERTIFIED COMPANY

Worldwide Approved Affiliations



Industrial Automation

Considered as the stream with the most growth potential in the coming decade. An Industrial Automation system consists of majorly 5 components PLC, SCADA, HMI, VFD & Control Panel. IPCS programs are Researched & Developed as per the Industry requirements targeting Practical Sessions with Training sessions assisted by Top Project Engineers.

Certified Automation Courses

Professional Diploma in **INDUSTRIAL AUTOMATION**

AUTOMATION SYSTEM ENGINEER

ADVANCED AUTOMATION SYSTEM PROFESSIONAL

ADVANCED PLC PROGRAM PROFESSIONAL

ELECTRICAL CONTROL & PANEL DESIGNING

INDUSTRIAL NETWORKING

CUSTOMIZED PROGRAM IN PLC / SCADA

Duration
300 Hrs

Duration
240 Hrs

Duration
150 Hrs

Duration
90 Hrs

Duration
60 Hrs

Duration
30 Hrs

Duration
30 Hrs

Get Trained in Top Brand Tools

PLC : Allen Bradley, SIEMENS, GE Fanuc, ABB, Schneider Electric, Delta, OMRON

SCADA : Wonderware, InTouch, IFix, Movicon, Win CC

HMI : Siemens, Allen-Bradley, Delta

VFD : Schneider Electric, Delta, Allen-Bradley

DCS : Yokogawa

PAC : Allen-Bradley
Industrial Networking,
Pneumatics & Calibration

Electrical Control & Panel Designing



Automation System Engineer

Duration: 240 Hrs

ELECTRICAL DRIVES AND CONTROLS

Basics of Relays, Contactor, MCB, MCCB, ELCB, ACB, SDF Etc.
Working Details of Different Types of Electric Motors.
Designing of Control Circuits Using Contactors, Relays, Timers Etc
DOL, Star Delta Starter Designing for 3 Phase Motors with Specification.
Motor Drives- AC Drives and DC Drives.
Programming and Installation of VFDs.
Discrete and Continuous Speed Control Using VFDs.
Safety and Management Concepts of Designing a Project.

FIELD INSTRUMENTATION AND PNEUMATIC

Different Types of Sensors- Analog and Discrete
Technical Terms Used In Instrumentation
Calibration and Testing Of Sensors- Thermo Couples, RTD, Pressure Gauge, Level Sensors, Proximity Switches, Limit Switches Etc.
Final Control Elements- Solenoid Valve, Control Valve, Motor Actuators, Solenoids, Bellows, Manual Valves Etc.
Wiring and Commissioning Of Reactor Plant with PLC and SCADA Control

PROGRAMMABLE LOGIC CONTROLLERS (PLC)

Architecture of PLC- Different Modules, Power Supply Unit Etc.
Need of PLC in Designing.
Different Types Of Sensors- Sinking, Sourcing, NPN, PNP.
Monitoring the Process through Sensors- Connection Details.
Analog Addressing, continuous Process Monitoring and Control.
Different Types of Controllers- ON/OFF, Proportional, Derivative, Integral, And PID Control.
PLC Programming of Branded PLCs.
NO/ NC Concept.
Data File Handling- Forcing I/O.

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

SCADA Packages
SCADA System Configuration, RTU, Communication Protocols.
Script Programming.
Real Time and Historical Trend.
Configuring Alarms.
Real Time Project Development with PLC Interfacing.
Communication with Other Software.
Accessing Different Security Levels.

DISTRIBUTED CONTROL SYSTEM (DCS)

Architecture of DCS
Yokogawa Centum CS 3000
Comparison of PLC with DCS
Programming Languages for DCS
Different Types of Cards and Their Functions

CONTROL PANEL DESIGNING

Different Types of Panels.
Wiring Details of Panel.
P&I Diagram Preparation.
Industrial control panel standards
Power supply systems
Power circuit requirements
Create a single line diagram.
Ferrules and numbering methodology.
Safety relay.



Professional Diploma in Industrial Automation

Duration: 300 Hrs

BASIC MODULE

Introduction to Automation Field
Automation Tools
Industrial Electrical Controls
VFD Theory
Introduction TO PLC
PLC (ZELIO)
Allen Bradley PLC Basics
PLC Wiring
SCADA Basics

WATER AND SEWAGE TREATMENT PLANT

About WTP
Process in WTP
Instruments and Sensors Used In
WTP
AB PLC
AB analog
InTouch-SCADA
AB-SCADA Interface, Report, Alarm Etc.

MACHINERY MANUFACTURING INDUSTRY

Delta (VFD)
About Machine Manufacturing Industry
Solution for Machine Manufacturing Industry
Instrumentation in Machines
Delta PLC
Application of HMI in Machine
Analog Sensors and interface on Machine
Mobile Controls

MANUFACTURING INDUSTRY

About Manufacturing Industry
Instrumentation in Manufacturing Industry
Mitsubishi PLC
Analog/Digital in Industry
Types of Controls and Instructions

POWER AND ENERGY MANAGEMENT INDUSTRY

About Power Generation, distribution
Energy usage on various industry
EB power /Dg power
Captive power plant and its application /generation
Solution-1-Energy monitoring using PLC
VFD 2
Modbus/other communication
Panel wiring advanced level
Different logic implementation

FOOD AND PHARMACEUTICAL INDUSTRY

About Food and Pharma Industry
Instrumentation in Food and Pharma
AB/Delta PLC
Analog sensors on Industry
Concept of Servo and its application on industry

CEMENT INDUSTRY

About Cement Industry
Instrumentation on Cement industry
Siemens 300
Solution for cement industry
Concept of load cell

RUBBER INDUSTRY

About Rubber Industry
Instrumentation in industry
GE Fanuc/Omron PLC

MATERIAL HANDLING AND LOGISTICS

About Logistic and its application
Concept study and Instrumentation on Industry
ABB PLC

OIL AND GAS INDUSTRY

About Oil and Gas Industry
Instrumentation behind the industry
Different solution on the Industry
S7 1200/S7 400 PLC

CHEMICAL& PROCESS INDUSTRIES

About Chemical and Process
Instrumentation behind the industry
Different solution on the Industry
PAC system
DCS Theory
Keyence PLC



Building Management System

One of the ever-growing streams in the World. Now a days the world is becoming smarter and greener by the implementation of high end automation systems. Building Management Systems leads to more optimized control of resources, high end security and easy to access from anywhere. The lack of trained BMS technicians leads to the improper design and implementation. The industry is looking for Skilled Technicians & Engineers who can meet all the requirements in BMS sector.

Certified BMS Courses

Diploma in
BUILDING MANAGEMENT SYSTEMS | Duration
360 Hrs

CERTIFIED BMS ENGINEER | Duration
180 Hrs

SMART HOME TECHNICIAN | Duration
120 Hrs

CCTV & SECURITY SYSTEMS | Duration
90 Hrs

CCTV TECHNICIAN | Duration
30 Hrs



Diploma in Building Management Systems

Duration: 360 Hrs

FUNDAMENTALS OF BUILDING MANAGEMENT SYSTEM

Basic Design Criteria
Components Used in BMS
Concept of Green & Smart Design
Energy Management Systems
MEP Design Fundamentals

BASIC ELECTRONICS

Basic Rules – OHMS Law, Faradays Law, KCL, KVL
Passive Components
Active Components
Power Electronics Components
Familiarization of Tools – Multimeter, Soldering, Desoldering
Selection of Components and Colour Codes

DIGITAL CIRCUITS

Number Systems & Conversion
Binary Operations
Logic Gates
Universal Gates
555 Timer

MICRO CONTROLLERS

Microprocessors & Micro Controllers
Architecture
Programming Practice
IC Burning
Interfacing Keyboard, LCD, Stepper Motor,
LED Displays

RELAY LOGIC SYSTEMS

Basic of Relays, Contractors, Timers, OLR, MCCBB, ACB
Digital Timers, Counters
Motor Control Circuits – D.O.L, Star, Delta
Implementation of Fire Alarm Logic

BASIC ELECTRICAL ENGINEERING

Single Phase and Three Phase Systems
Different Types Loads – Load Calculation
Measurement of Current, Voltage, Power
Different Types of Motors
Different Types of Earthing

CONTROL PANELS

Different Types of Panels
Panel Components
Wiring and Trouble Shooting
AMF Panels
APFC Panels
Power Management Systems

VFD's

Selection of VFD's
Programming of VFD
Fault Correction
Interfacing with HMI, PLC

CAD DRAWING

Single Line Diagram
Standard Symbols
MEP Design Concepts
Plotting
Interfacing with HMI, PLC

NETWORKING

Concept of LAN, VAN
Implementing of Networks
Sharing of Files, Printers, Scanners Etc.
Network Protocols –
TCP/IP, Ethernet, Modbus, Canbus, Profibus

BMS CONFIGURATION

Basic Parameters
Energy Measurement
Transmission Techniques
Network Protocols – Modbus, Profibus, Canbus

PLC

Monitoring the Process Through Sensors – Connection Details
Analog Addressing, Continuous Process Monitoring and Control
NO/NC Concept
Data File Handling – Forcing I/O
Wiring and Fault Correction
Programming Practices

HMI

HMI System Overview
HMI Hardware Overview
Operation of Standard Display Panels
Display Panels – Textual and Graphical
Communication with PLC and Drives

MICRO CONTROLLERS

Microprocessors & Micro Controllers
Architecture
Programming Practice
IC Burning
Interfacing Keyboard, LCD, Stepper Motor,
LED Displays

SCADA

SCADA Packages
Role of SCADA in Industrial Automation
Script Programming
Real Time and Historical Trend
Configuring Alarms
Real Time Project Development with PLC
Interfacing
Communication with Other Software
Recipe Management
Accessing Different Security Levels
Report Generation of Current Plant

PNEUMATICS & HYDRAULICS

Pneumatic Cylinders, Valves, Positioned
Control Valves
Calibration
I/P Converter

FIELD INSTRUMENTS

Common Instrumentation Parameters –
Set point, Measured Variable, Manipulated
Variable, Error, Zero & Span, Hysteresis, Accuracy
Measurement of Level, Temperature, Pressure, Flow
Calibration of Transmitters

CCTV – HONEYWELL & HIKVISION

Selection of Camera
Cabling and Termination
Different Types of Cameras
Night Vision Systems
DVR Configuration – Honeywell
NVR Configuration – Hikvision
IP Cameras and Networking
Remote Monitoring Through Phone and Internet

SECURITY SYSTEMS – INTRUDER ALARMS

GSM Enabled Control Panel
PIR Sensors
Vibration Sensors
Gas Leakage Detectors
EM Locks
Beam Sensors

BIOMETRIC ACCESS CONTROL – HONEYWELL

RFID Cards
Installation and Configuration
Finger Print Access
Report Preparation
Magnetic Locks

FIRE ALARMS & PANELS – HONEYWELL

Sensors – Heat, Smoke, PIR
Conventional Fire Alarm Panels
Addressable Fire Alarm Panels
Cabling
Safety Standards
Alarms
PA Systems
Recorders

Video Door Phones

Lighting Controls

Solar Panels

UPS and Generators

Surge & Lightning Protection Systems

Automatic Gates & Barriers

HVAC Systems

RTU

Interview Training

Aptitude Test

Group Discussion

CCTV & Security Systems

Duration: 90 Hrs

CCTV - HONEYWELL & HIKVISION

Selection of Camera
Cabling and Termination
Different Types of Cameras
Night Vision Systems
DVR Configuration – Honeywell
NVR Configuration – Hikvision
IP Cameras and Networking
Remote Monitoring Through Phone and Internet

SECURITY SYSTEMS - INTRUDER ALARMS

GSM Enabled Control Panel
PIR Sensors
Vibration Sensors
Gas Leakage Detectors
EM Locks
Beam Sensors

BIOMETRIC ACCESS CONTROL - HONEYWELL

RFID Cards
Installation and Configuration
Finger Print Access
Report Preparation
Magnetic Locks



Digital Marketing

Digital Marketing is one of the most swiftly expanding fields in the World now. We live in a world where selling a product or branding a company without Digital Marketing is impossible. Digital Marketing helps to create a brand value to a company using the least amount of investment possible, compared to traditional methods. In case of job demand also, there are huge opportunities available in the market of Digital Marketing. IPCS provides the top notch training in Digital Sector with Classes from top Analysts, Programs based on Practical Sessions & with Internships.

Certified Digital Marketing Courses

ADVANCED CERTIFICATE COURSE IN DIGITAL MARKETING

3 Months Training +
3 Months Paid Internship

PROFESSIONAL DIPLOMA IN DIGITAL MARKETING

Duration
240 Hrs

INBOUND MARKETING CERTIFICATION COURSE

Duration
75 Hrs

ADVANCED CERTIFICATE COURSE IN ONLINE ENTREPRENEURSHIP

Duration
150 Hrs

AFFILIATE MARKETING CERTIFICATION COURSE

Duration
60 Hrs

CERTIFICATE COURSE IN DIGITAL MARKETING

Duration
110 Hrs

INTERNATIONAL WEB PROFESSIONAL

Duration
180 Hrs

EMAIL MARKETING CERTIFICATION COURSE

Duration
45 Hrs

SEO CERTIFICATION COURSE

Duration
70 Hrs

SMM CERTIFICATION COURSE

Duration
60 Hrs

CERTIFICATIONS

Google, Facebook, Hubspot,
Jain University, STED Council

SEM CERTIFICATION COURSE

Duration
60 Hrs

Advanced Certificate Course in Digital Marketing

3 Months Training +
3 Months Paid Internship



OVERVIEW OF SEO

SEO Business Concepts
Business Impact of SEO
Periodic Table of SEO Success Factors

HOW SEARCH ENGINE WORKS?

Search Engine Landscape (Website terminology)
Search Engine Index
Analysing Search Engines

KEYWORD RESEARCH & COMPETITIVE ANALYSIS

The Need for a Keyword Research Plan
How to Research Your Keywords
Tools To help You Analyse Keywords

ON PAGE OPTIMIZATION – CONTENT SEO

Understanding content Optimization
Optimizing textual Page Elements
Analysing Content Quality

ON PAGE OPTIMIZATION – TECHNICAL SEO

Domain Signals for SEO
Manage Website URLs
Webmaster tools

OFF PAGE SEO

The Importance of Links
Evaluating Backlinks
Methods of Backlinks

LONG TERM CONTENT PLANNING

Overview of long-term content strategies
Defining your audience topic angle and style
Promoting your content with social media

MEASURING SEO EFFECTIVENESS

Measuring SEO Performance
Measuring the Impact of Social Media
Analysing links

SEO IN E-COMMERCE

Understanding SEO and E-Commerce
Working with Semantic HTML for E-Commerce
Producing E-Commerce Content

GOOGLE BUSINESS LISTING

Understanding Google My Business
Getting more Reviews for your Business
Optimizing Your Website for Local Search

MOBILE SEO

Understanding Mobile SEO
Configuring Your Website for Mobile
Developing mobile friendly content

GOOGLE ANALYTICS

Understanding the basics
Why Google analytics
Understanding full reports

GOOGLE TAG MANAGER

Starting out with Google Tag Manager
Setting up Google Tag Manager
Using additional tags for marketing and remarketing

SOCIAL MEDIA MARKETING

Importance of social media
Social media key concept
Viral marketing

FACEBOOK OPTIMIZATION AND MARKETING

Introduction to Facebook
Facebook events
Creating a Facebook Page for Your Business

INSTAGRAM MARKETING

What Is Instagram All About
Why Businesses Should Use Instagram
How to Build Followers and Gain Attention

PINTEREST MARKETING

Pinterest Business Marketing
Staying consistent with Pinterest
Pinterest Power Tools

TWITTER MARKETING

Getting Started: Creating an Effective Twitter Profile
Twitter Fundamentals – Setup and Basic Functions
Importance of tweet quality to ensure engagement

LINKEDIN MARKETING

Boost Your LinkedIn Profile
How to Make Your Profile Ranks in Search Engines
LinkedIn Ads

GOOGLE+ MARKETING

Setup Google plus Profile
Google Plus for Business Setup
Using Google Plus

SOCIAL MEDIA ROI

Social Media Marketing ROI Intro
Reasons to calculate social media ROI
Challenges with calculating return

SEARCH ENGINE MARKETING

Introduction to PPC Marketing
Overview of PPC Marketing Training
What PPC Marketing is All About?

SEM KEYWORD RESEARCH

(Learn how To Apply keywords to your PPC Campaign)

Create effective ads
Balance keywords and quality score
Common mistakes to avoid

SETTING UP A PPC CAMPAIGN

Creating a PPC Campaign in Google AdWords
Creating a PPC Campaign in Facebook
Creating a PPC Campaign in Twitter

INTRODUCTION TO GOOGLE ADWORDS

The Importance of using Google AdWords
Understanding the Auction
AdWords Account Structure

WEB DEVELOPMENT USING WORDPRESS

Introduction to Domain
How to Register a Domain Name
Web Domain & Hosting

AFFILIATE MARKETING

Fundamentals of affiliate marketing
Introduction to becoming an affiliate publisher
Introduction to becoming an affiliate advertiser

YOUTUBE MARKETING (V-Blogging)

Starting a channel New Channel Setup
Channel Strategy
Audience Engagement Playlists

INBOUND MARKETING

Essentials of an Effective Inbound Strategy
Optimizing Your Website for Search Engines
Taking Your Sales Process Inbound





EMBEDDED & IoT PROGRAMS

CERTIFIED EMBEDDED DESIGN PROFESSIONAL

Duration
140 Hrs

Basic Electronic Components / Analog & Digital Electronics
Fundamentals of C Programming/Embedded
Introduction to Microcontrollers and Embedded System
AVR / PIC / ARM 7 Microcontroller
Communication Protocols

CERTIFIED EMBEDDED SYSTEM ENGINEER

Duration
200 Hrs

Basic Electronic Components / Analog & Digital Electronics
Fundamentals of C Programming/Embedded C
Introduction to Microcontrollers and Embedded System
AVR / PIC / ARM 7 / 8051 Microcontroller
Python Programming - Raspberry pi 3 Microprocessor
Communication Protocols (UART,USART,I2C,SPI,CAN)

CERTIFIED IoT PROFESSIONAL

Duration
140 Hrs

Basic electronics components, Analog & Digital Electronics
IoT and Its Applications
C Programming , Arduino-NodeMCU
Python Programming , Raspberry Pi
IoT hardware Platforms
IoT Cloud Platforms
Introduction to Ubidots, Thinger, Thingspeak IoT Platform,
Blynk , Google Cloud Platform,etc.





Information Technology Courses

CERTIFIED PYTHON PROGRAMMER	Duration 120 Hours
PYTHON FULL STACK DEVELOPER	Duration 180 Hrs
PROFESSIONAL DIPLOMA IN PYTHON & DATA SCIENCE	Duration 240Hrs
INTERNATIONAL WEB PROFESSIONAL	Duration 180 Hrs
WEB DESIGNING	Duration 180 Hrs



“Information Technology has been one of the leading drives of globalization, and it may also become one of its major victims

Evgeny Morozov



Professional Diploma in Python & Data Science

Duration: 240 Hrs

Introduction to Data Science

What is analytics & Data Science?
Business Analytics vs. Data Analytics vs.
Data Science
Common Terms in Analytics
Analytics vs. Data warehousing,
OLAP, MIS Reporting
Types of data (Structured vs. Unstructured
vs. Semi Structured)

Relevance of Analytics in industry and
need of the hour
Critical success drivers
Overview of analytics tools &
their popularity
Analytics Methodology & problem
solving framework
Stages of Analytics

Python Essentials

Overview of Python- Starting with Python
Why Python for data science?
Anaconda vs. python
Introduction to installation of Python
Introduction to Python IDE's(Jupyter,/Ipython)
Concept of Packages - Important packages
NumPy, SciPy, scikit-learn, Pandas, Matplotlib, etc
Installing & loading Packages & Name Spaces
Data Types & Data objects/structures
(strings, Tuples, Lists, Dictionaries)
List and Dictionary Comprehensions

Variable & Value Labels – Date & Time Values
Basic Operations – Mathematical/string/date
Control flow & conditional statements
Debugging & Code profiling
Python Built-in Functions
(Text, numeric, date, utility functions)
User defined functions – Lambda functions
Concept of apply functions
Python – Objects – OOPs concepts
How to create & call classes and modules?



Operations with NumPy (Numerical Python)

What is NumPy?
Overview of functions & methods in NumPy
Data structures in NumPy
Creating arrays and initializing
Reading arrays from files
Special initializing functions
Slicing and indexing
Reshaping arrays
Combining arrays
NumPy Maths Overview of Pandas
What is pandas, its functions & methods
Pandas Data Structures (Series & Data Frames)
Creating Data Structures
(Data import – reading into pandas)

Cleansing Data with Python

Understand the data
Sub Setting / Filtering / Slicing Data
Using [] brackets
Using indexing or referring with column names/rows
Using functions
Dropping rows & columns
Mutation of table (Adding/deleting columns)
Binning data (Binning numerical variables in to categorical variables)
Renaming columns or rows
Sorting (by data/values, index)
By one column or multiple columns
Ascending or Descending
Type conversions
Setting index
Handling duplicates /missing/Outliers
Creating dummies from categorical data (using get_dummies())
Applying functions to all the variables in a data frame (broadcasting)
Data manipulation tools(Operators, Functions, Packages, control structures,Loops, arrays etc.)

Data Analysis using Python

Exploratory data analysis
Descriptive statistics, Frequency Tables and summarization
Uni-variate Analysis (Distribution of data & Graphical Analysis)
Bi-Variate Analysis(Cross Tabs, Distributions & Relationships, Graphical Analysis)

Predictive Modeling with Python

Introduction to Predictive Modeling
Concept of model in analytics and how it is used?
Common terminology used in modeling process
Types of Business problems - Mapping of Algorithms
Different Phases of Predictive Modeling
Data Exploration for modeling
Exploring the data and identifying any problems with the data (Data Audit Report)
Identify missing/Outliers in the data
Visualize the data trends and patterns

Supervised Learning: Regression problems

Linear Regression
Non-linear Regression
K-Nearest Neighbor
Decision Trees

Supervised Learning: Classification problems

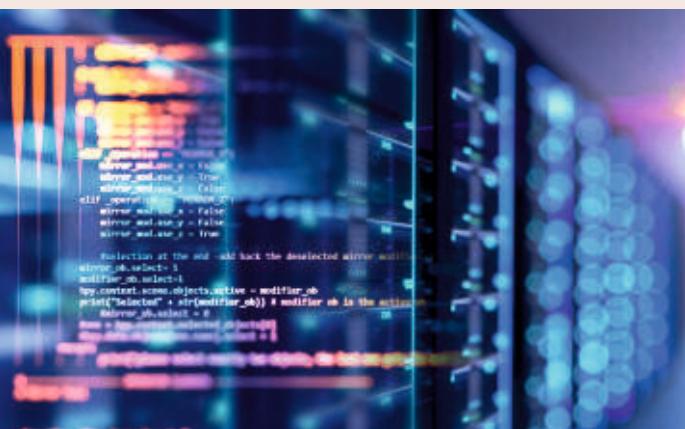
Logistic Regression
K-Nearest Neighbor
Naïve Bayes Classifier
Decision Trees

Unsupervised Learning

Dimensionality Reduction and Manifold Learning
Clustering

Deep Learning

Applied Text Mining in Python
Regular Expressions
Basic Natural Language Processing
Basic NLP tasks with NLTK
Advanced NLP tasks with NLTK
Text Classification



Data Visualization with Python

Introduction to Data Visualization

Introduction to Matplotlib

Basic Plotting with Matplotlib

Line Plots Basic Visualization Tools

Area Plots

Histograms

Bar Charts

Pie Charts

Box Plots

Scatter Plots

Bubble Plots Advanced Visualization Tools

Waffle Charts

Word Clouds

Seaborn and Regression Plots Visualizing Geospatial Data

Introduction to Folium

Maps with Markers

Choropleth Maps Statistical Methods & Hypothesis Testing

Descriptive vs. Inferential Statistics

What is probability distribution?

Important distributions (discrete & continuous distributions)

Deep dive of normal distributions and properties

Concept of sampling & types of sampling

Concept of standard error and central limit theorem

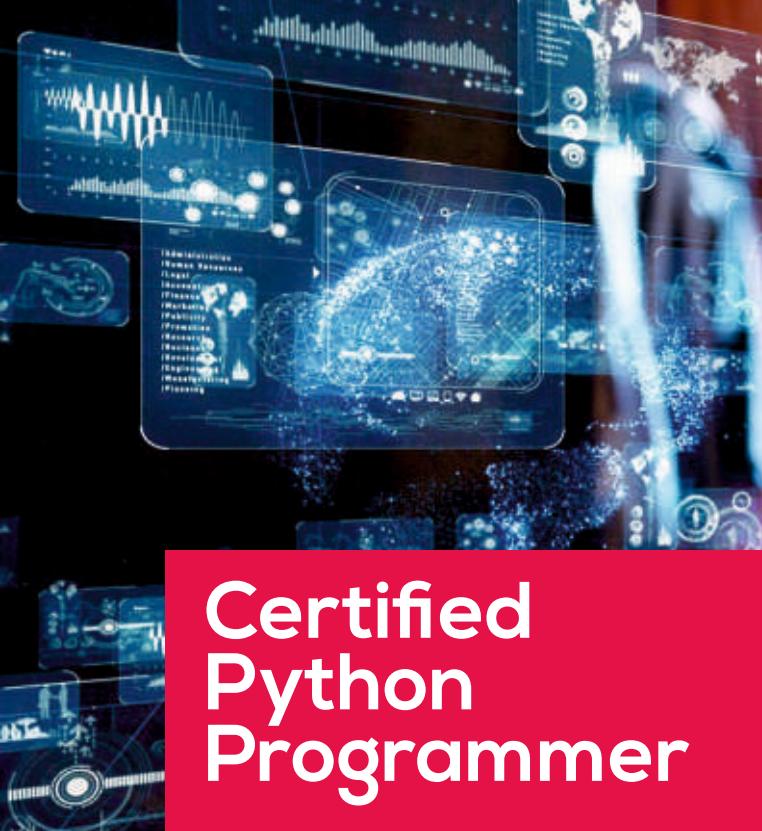
Concept of Hypothesis Testing

Statistical Methods - Z/t-tests (One sample, Independent, paired), ANOVA,

Correlation and Chi Square

Web Scraping with BeautifulSoup





Certified Python Programmer

Duration: 120 Hrs



GETTING STARTED

History & need of Python

Application of Python

Advantages of Python

Disadvantages of Python

Installing Python

Program structure

Interactive Shell

Executable or script files.

User Interface or IDE

PYTHON FUNDAMENTALS

Working with Interactive mode

Working with Script mode

Python Character Set

Python Tokens, Keywords, Identifiers, Literals, Operators

Variables and Assignments

Input and Output in Python

DATA HANDLING

Data Types

Numbers

Strings

Lists

Tuples

Dictionary

Set

Frozenset

Bool

Mutable & Immutable

STRING MANIPULATION

Introduction to Python String

Accessing Individual Elements

String Operators

String Slices

String Functions and Methods

LIST MANIPULATION

Introduction to Python List

Creating List

Accessing List

Joining List

Replicating List

List Slicing

DICTIONARIES

Introduction to Dictionary

Accessing values in dictionaries

Working with dictionaries

Properties

SET AND FROZENSET

Introduction to Set and Frozenset

Creating Set and Frozenset

Accessing and Joining

Replicating and Slicing

TUPLES

Introduction to Tuple

Creating Tuples

Accessing Tuples

Joining Tuples

Replicating Tuples

Tuple Slicing

OPERATORS

Arithmetic Operators

Relational Operators

Logical Operators

Membership Operators

Identity Operators

Bitwise Operators

Assignment Operators

Operators Precedence

Evaluating Expression

Type Casting

PROGRAM CONTROL FLOW

Conditional Statements

The if Statement

The if-else Statement

The if-elif Statement

Nested if Statements

Python Indentation

Looping and Iteration

The For Loop

The While Loop

Loop else Statement

Nested Loops

Break and Continue

The Range Function

Introduction to range()

Types of range() function

INTRODUCTION TO FUNCTIONS

Built-In Functions

Introduction to Functions

Using a Functions

Python Function Types

Structure of Python Functions E.g.
- map, zip, reduce, filter, any, chr,
ord, sorted, globals,
locals, all, etc.

User Defined Functions

Structure of a Python Program w.r.t. UDF

Types of Functions

Invoking UDF

Flow of Execution

Arguments and Parameters

Default Arguments, Named Arguments

Scope of Variables

Lambda function

Recursion Function

Use of recursion function

MODULES AND PACKAGES

Built-in Modules

Importing Modules in Python Programs

Working with Random Modules E.g. -
builtins, os, time, datetime, calendar,
sys, etc.

User Defined Functions

Structure of Python Modules

FILE OPERATIONS

Text and Bytes files

Opening a file

Reading and Writing Files

Other File tools

MS Excel files

Introduction to MS Excel files

CLASSES AND OBJECTS

Classes as User Defined Data Type

Objects as Instances of Classes

Creating Class and Objects

Creating Objects By Passing Values

Variables & Methods in a Class

EXCEPTION HANDLING

Default Exception and Errors

Catching Exceptions

Raise an exception

Try.... except statement Raise,
assert, Finally blocks

User defined exception

INTRODUCTION TO OOPS

Procedural Vs Modular Programming

The Object Oriented Programming

Data Abstraction

Data Hiding

Encapsulation

Modularity

Inheritance

Polymorphism

DATABASE

Introduction to MySQL

MySQL Connections

Executing queries

Transactions

Handling error

GUI PROGRAMMING

Introduction

Tkinter programming

Tkinter widgets

Frame

Button

Label

Entry

MULTITHREADING

Thread and Process

Starting a thread

Threading module

Synchronizing threads

Multithreaded Priority Queue

REGULAR EXPRESSIONS

Match function

Search function

Grouping

Matching at Beginning or End

Match Objects Flags

PYTHON MODULES

Numpy

Pandas

Scipy

PYTHON MATPLOTLIB

Get Started

Pyplot

Plotting

Markers

Line

Labels

Grid

Subplots

Scatter

Bars

Histograms

Pie Charts





International Web Professional

Duration: 180 Hrs

WEB DEVELOPMENT SYLLABUS

Python Intro	Python	Python	Inset	Limit
Python Comments	Dictionaries	Write/Create Files	Select	Join
Python Variables	Python Scope	Python Delete	Where	Creating a Website -
Python Data Types	Python Modules	Files	Order By	Project, using Frame
Python Numbers	Python File	Python MySQL	Delete	Work
Python Tuples	Handling	Create Database	Drop Table	Django
Python Sets	Python Read Files	Create Table	Update	

WEB DESIGN SYLLABUS

HTML5	CSS How To	BS Wells	AJAX	CMS
HTML5 Introduction	CSS Colors	BS Alerts	Introduction	WordPress
HTML5 New Elements	CSS Backgrounds	BS Buttons	PHP AJAX example	Admin panel
HTML5 Video	CSS Borders	BS Button Groups	AJAX Database	Theme Customization
HTML5 Video/DOM	CSS Margins		programming	Plugins
HTML5 Audio	CSS Padding	JAVASCRIPT		Create a blog using
HTML5 Drag and Drop	CSS Height/Width	JS HOME	jQuery Install	WordPress
HTML5 Canvas		JS Introduction	jQuery Syntax	MVC
HTML5 SVG	BOOTSTRAP	JS Where To	jQuery Selectors	Basics
HTML5 Canvas vs. SVG	BS HOME	JS Output	jQuery Events	
HTML5 Geolocation	BS Get Started	JS Syntax	jQuery Hide/Show	WordPress:
CSS3	BS Grid Basic	JS Statements	jQuery Fade	Introduction to
CSS HOME	BS Typography	JS Comments	PHP Course	WordPress
CSS Introduction	BS Tables	JS Variables		Installing WordPress
CSS Syntax	BS Images	JS Operators		exploring the admin interface
	BS Jumbotron	Syllabus		Content creation: Posts vs. pages
		jQuery Slide		
		jQuery Animate		
		jQuery stop()		

Web Optimization Syllabus

(Lesson 1)

SEO Business Concepts
Business Impact of SEO
Periodic Table of SEO Success Factors

(Lesson 2)

How Search Engines Work
Search Engine Landscape (Website terminology)
Search Engine Index

(Lesson 3)

Keyword Research & Competitive Analysis
The Need for A Keyword Research Plan
How to Research Your Keywords

(Lesson 4)

On Page Optimization - Content SEO
Understanding content Optimization
Optimizing Structure

(Lesson 5)

On Page Optimization - Technical SEO
Identify and Remove Duplicate Content
Additional Optimization & Management

(Lesson 6)

OFF Page SEO
The Importance of Links
Evaluating Backlinks

(Lesson 7)

Long Term Content Planning
Overview of long-term content strategies
Planning a successful content strategy and avoid common

(Lesson 8)

Measuring SEO Effectiveness
Measuring SEO Performance
Measuring the Impact of Social Media

(Lesson 9)

SEO in E-Commerce
Understanding SEO and E-Commerce
Working with Semantic HTML for E-Commerce

(Lesson 10)

Google Business Listing
Understanding Google My Business
Setting Up and Optimizing Google+ Business Listing

(Lesson 11)

Mobile SEO
Configuring Your Website for Mobile
Developing mobile friendly content

(Lesson 12)

Google Analytics
Understanding the basics
Why Google analytics

(Lesson 13)

Google Tag Manager
Setting up Google Tag Manager
Using additional tags for marketing and remarketing





Professional Diploma in Artificial Intelligence & Machine Learning

Duration : 480 Hours

Module – 1 Introduction to Data Science (45 Hours)

- ▶ What is analytics & Data Science?
- ▶ Business Analytics vs. Data Analytics vs. Data Science
- ▶ Common Terms in Analytics
- ▶ Analytics vs. Data warehousing, OLAP, MIS Reporting
- ▶ Types of data (Structured vs. Unstructured vs. Semi Structured)
- ▶ Relevance of Analytics in industry and need of the hour
- ▶ Critical success drivers
- ▶ Overview of analytics tools & their popularity
- ▶ Analytics Methodology & problem solving framework
- ▶ Stages of Analytics

Module – 2 Python Essentials (45 Hours)

- ▶ Overview of Python- Starting with Python
- ▶ Why Python for data science?
- ▶ Anaconda vs. python
- ▶ Introduction to installation of Python
- ▶ Introduction to Python IDE's(Jupyter, /ipython)
- ▶ Concept of Packages - Important packages
- ▶ Conditions and Loop
- ▶ NumPy, SciPy, scikit-learn, Pandas, Matplotlib, etc
- ▶ Installing & loading Packages & Name Spaces
- ▶ Data Types & Data objects/structures
(strings, Tuples, Lists, Dictionaries)
- ▶ List and Dictionary Comprehensions

- ▶ Variable & Value Labels – Date & Time Values
- ▶ Basic Operations – Mathematical/string/date
- ▶ Control flow & conditional statements
- ▶ Debugging & Code profiling
- ▶ Python Built-in Functions (Text, numeric, date, utility functions)
- ▶ User defined functions – Lambda functions
- ▶ Concept of apply functions
- ▶ Python – Objects – OOPs concepts
- ▶ How to create & call classes and modules?

Module – 3 Operations with NumPy (Numerical Python) (45 Hours)

- ▶ What is NumPy?
- ▶ Overview of functions & methods in NumPy
- ▶ Data structures in NumPy
- ▶ Creating arrays and initializing
- ▶ Reading arrays from files
- ▶ Special initializing functions
- ▶ Slicing and indexing
- ▶ Reshaping arrays
- ▶ Combining arrays
- ▶ NumPy Maths Overview of Pandas
- ▶ What is pandas, its functions & methods?
- ▶ Pandas Data Structures (Series & Data Frames)
- ▶ Creating Data Structures (Data import – reading into pandas)

Module – 4

Cleansing Data with Python (45 Hours)

- ▶ Understand the data
- ▶ Sub Setting / Filtering / Slicing Data
- ▶ Using [] brackets
- ▶ Using indexing or referring with column names/rows
- ▶ Using functions
- ▶ Dropping rows & columns
- ▶ Mutation of table (Adding/deleting columns)
- ▶ Binning data (Binning numerical variables in to categorical variables)
- ▶ Renaming columns or rows
- ▶ Sorting (by data/values, index)
- ▶ By one column or multiple columns
- ▶ Ascending or Descending
- ▶ Type conversions
- ▶ Setting index
- ▶ Handling duplicates /missing/Outliers
- ▶ Creating dummies from categorical data (using get dummies())
- ▶ Applying functions to all the variables in a data frame (broadcasting)
- ▶ Data manipulation tools (Operators, Functions, Packages, control structures)

Module – 5

Preparatory Classes for AI and ML (6 Hours)

- ▶ What is Artificial Intelligence ?
- ▶ What are all the Difference between AI and ML ?
- ▶ Installation of Jupyter Notebook
- ▶ Installation and How to access the SQL workbench

Module – 6

An Intro to Git and GitHub (9 Hours)

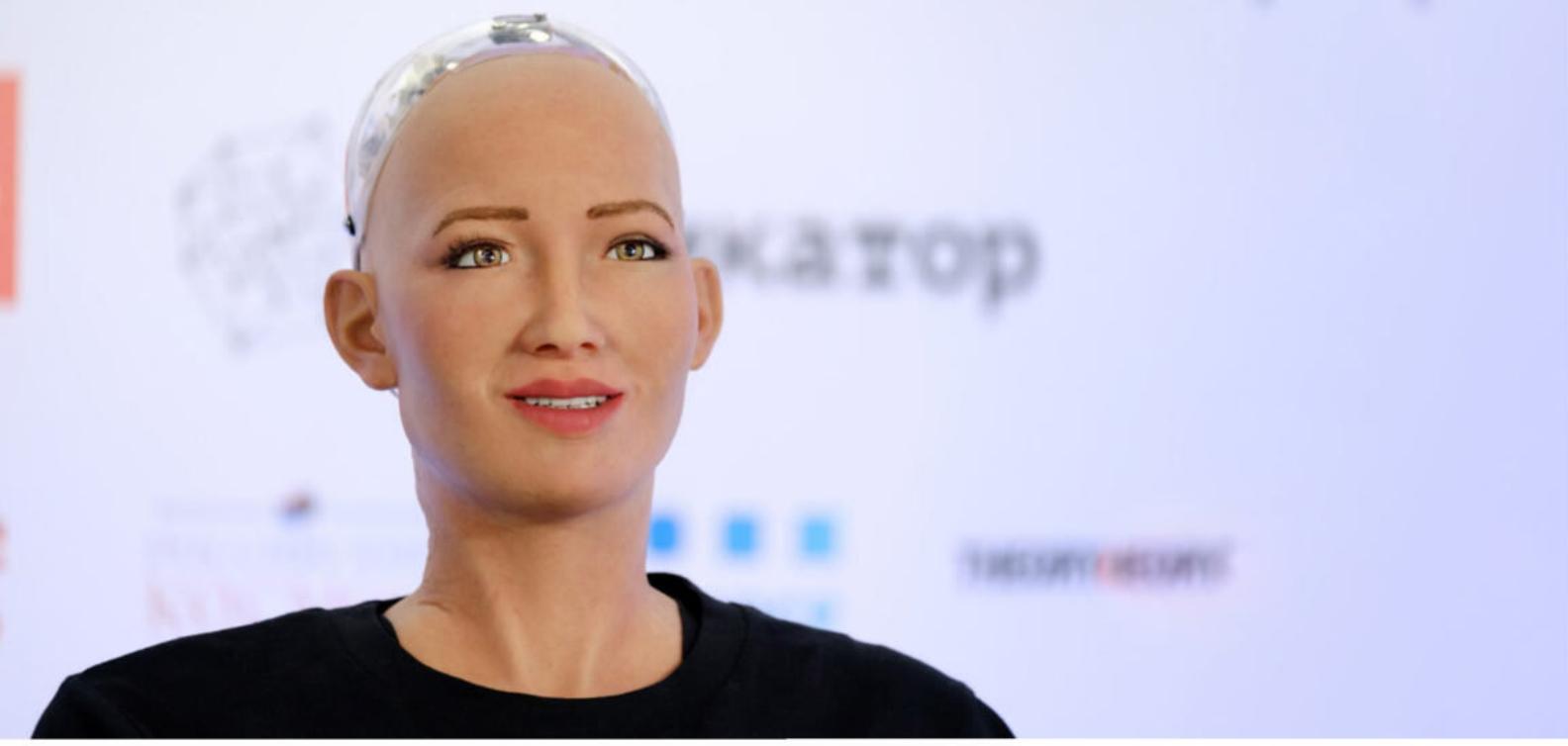
- Section-1**
 - ▶ How to Download and Install Git on Mac & Windows
 - ▶ Git Setup : Your Name and Email
 - ▶ Create a New Local Git Repository (Initialize Repository)
 - ▶ How to Stage and Commit Files.
- Section-2**
 - ▶ Push to Remote Repository
 - ▶ Pull from Remote Repository
 - ▶ How to Clone (Download) a Remote Repository
- Section-3**
 - ▶ How to Handle Merge Conflicts
 - ▶ View a List of Commits and Undo Changes
 - ▶ Branches : Create, Switch, Push, Merge and Delete.

Module 7 –

Data Wrangling (16 hours)

- ▶ Importance of Data Wrangling
- ▶ Data Wrangling in Python:
 1. Data Exploration
 2. Dealing with Missing Values
 3. Reshaping the Data
 4. Filtering Data
- ▶ Data Wrangling with Merge Options
- ▶ Data Wrangling using Grouping Method and Removing Duplication





Module – 8

Structured Query Language (SQL) (60 hours)

- ▶ What is SQL?
- ▶ Why SQL ?
- ▶ SQL Commands:
 - >>DDL (Data Definition Language)
 - >>DML (Data Manipulation Language)
 - >>DCL (Data Control Language)
 - >>TCL (Transactional Control Language)
- ▶ What is RDBMS and DBMS ?
- ▶ What is SQL and NoSQL
- ▶ SQL Constraints, Different Types of Joins?
- ▶ What are the Different Commenting Statements which is used in SQL Query?
- ▶ SQL Operators:
 - >>Arithmetic Operators
 - >>Logical Operators

Module – 9

Machine Learning and Prediction Algorithms (63 hours)

- ▶ Linear Regression and When to use it
- ▶ Logistic Regression
- ▶ Clustering, Principal Component Analysis
- ▶ Support vector Machines, Naive Bayes, KNN Algorithms
- ▶ What is Regularization in Machine Learning
- ▶ Decision Tree and Random Forest
- ▶ What is Meant by Ensemble Techniques and How it is used ?
- ▶ Cross Validation techniques
- ▶ Grid Search CV

Module – 10

Tensorflow (30 hours)

- ▶ Python Programming
- ▶ How Neural Network Foundations are Useful?
- ▶ Data Preprocessing
- ▶ What is Keras Functional API, Data Types, and Arithmetic Operators
- ▶ Building Model with Keras Sequential API
- ▶ What is Data Dimensionality and Matrix Algebra?

Module – 11

Advanced Deep Learning (30 hours)

- ▶ Introduction to Deep Learning
- ▶ Difference Between Deep Learning and Machine Learning
- ▶ What is Reinforcement Learning
- ▶ Artificial Neural Networks
- ▶ Weights Initialized in a Network
- ▶ Cost Function
- ▶ Hyperparameters
- ▶ Iteration in Deep Learning
- ▶ Different Layers in CNN, Pooling and How it works?
- ▶ Recurrent Neural Networks (RNNs)
- ▶ What is Long – Short – Term Memory (LSTM Network)
- ▶ MLP (Multi Layer Perceptron)
- ▶ Gradient Descent
- ▶ Deep Learning Frameworks:
 - >> Pytorch
 - >> TensorFlow
 - >> Microsoft Cognitive Toolkit
 - >> Keras

Module – 12 Computer Vision (30 hours)

- ▶ How Computer Vision is Correlated with Artificial Intelligence (AI)
- ▶ Image Enhancement
- ▶ Transformations
- ▶ Filtering, Fourier and Wavelet transforms and Image Compression
- ▶ Colour Vision
- ▶ Feature extraction
- ▶ Post Estimation
- ▶ Registration
- ▶ Visual Recognition

Module – 13 SAS (45 hours)

- ▶ What SAS stands for?
- ▶ Reading / Importing Raw Data into SAS
- ▶ SAS Keyword Shortcut
- ▶ **BASE SAS TUTORIAL:**
 - >> Importing Excel Data into SAS
 - >> Read Character Variable of varying Length
 - >> Creating or Modifying a Variable
 - >> If – Then – Else Statements
 - >> Where Statements and Dataset Options
 - >> Where vs IF Statements
 - >> How Data Step and PROC SQL works
 - >> Use of Wild card Character
 - >> Character Functions
 - >> Missing Values in SAS
 - >> Delete Empty Row in SAS
 - >> Use of Multiple Set Statements
 - >> Combining and Aggregatig in SAS
 - >> Handling variable name having Spaces
 - >> Speed up SAS Code with Index
 - >> Pattern Matching with SAS
- ▶ **SAS Advanced : Proc SQL**
 - >> Combining Tables Vertically with PROC SQL
 - >> Proc SQL Joins (Merging)
 - >> Join on Multiple Columns
 - >> Join on Multiple tables
 - >> Proc SQL Self Joins
 - >> Random Sampling with PROC SQL

Module – 14 Advanced Excel (3 hours)

- ▶ Statistical Modelling
- ▶ Forecasting and Prediction
- ▶ Pivot Tables
- ▶ VBA and Macros
- ▶ What is Sum if ?
- ▶ Conditional Formatting
- ▶ If Error
- ▶ Count if
- ▶ Index match
- ▶ What is VLOOKUP and HLOOKUP

Module – 15 Tableau Desktop 10 (6 hours)

- ▶ Tableau Public : Creating your account in Tableau Public for the hands on Practice of Datasets
- ▶ How to Install Tableau Public
- ▶ Visual Analytics and Process
- ▶ Exporting the Tableau Desktop
- ▶ Importing the Dataset into Tableau
- ▶ Deriving Insights : Numbers vs Visuals
- ▶ Design Principles : How to Select appropriate chart based on Data
- ▶ String Calculations
- ▶ Date Calculations
- ▶ Logical Operators
- ▶ **DASHBOARD:**
 - >> What is meant by Dashboards, What are all the uses and how to create it?
 - >> Introduction to Dashboards
 - >> How to Build Dashboards
 - >> Parameters in Tableau
 - >> Sorting with Parameters
 - >> What if Analysis with Parameters
 - >> Special type of Charts
- ▶ **ADDITIONAL SUPPLEMENTARY CONTENT:**
 - >> Design Principles – Binning and Boxplot
 - >> Groups in tableau
 - >> Joining groups
 - >> Design Principles – Gantt Chart
 - >> Funnel and Control Charts
 - >> Dashboard Actions
 - >> What is Advanced Mapping Techniques
 - >> Creating groups
 - >> Advanced Calculations in tableau

Module – 16 (2 hours)

Capstone Projects



ARTIFICIAL INTELLIGENCE

Artificial Intelligence & Machine Learning

Duration : 240 Hours

Module – 1
Preparatory Classes for AI and ML (3 Hours)

Module – 2
An Intro to Git and GitHub (3 Hours)

Module 3
Data Wrangling (16 Hours)

Module 4
Structured Query Language (SQL) (23 Hours)

Module 5
Machine Learning and Prediction Algorithms (50 Hours)

Module 6
Tensorflow (30 Hours)

Module 7
Advanced Deep Learning (30 Hours)
Deep Learning Frameworks:

Module – 8
Computer Vision (30 Hours)

Module – 9
SAS (45 Hours)

BASE SAS TUTORIAL:
SAS Advanced : Proc SQL :

Module – 10
Advanced Excel (3 Hours)

Module – 11
Tableau Desktop 10 (7 Hours)

DASHBOARD:
ADDITIONAL SUPPLEMENTARY CONTENT:

Module – 10
Final Capstone Projects (90 Hours)

Our Placements

						
Satheesh Kumar Utseav marketing Coimbatore	Mahendran AVB Teknosolves Coimbatore	Subash AVB Teknosolves Coimbatore	Vivek B AVB Teknosolves Coimbatore	T Sidharth Wavice Data Solutions	Ajith Corol systems	Vijay Pandi AVB Teknosolves Coimbatore
						
Jayashree Skaat Automation	Mohammed Razuldeen AVB Teknosolves	Naveen Surya Bright Bridge Infotech	Deepak Bright Bridge Infotech	Gowtham R AVB Teknosolves	Karthik Raja AVB Teknosolves	Sooraj Gee Ess Metals
						
Alex Ragavendra Controls	Junais Bluebell Infotech Systems	Abhijith Yellow Panda Advertising	Sawad Domotics	Julie Maria Imperial Solution	Fazna Yousuf UBI Digital World	Dhanraj Automation Engineer
						
Mandhu Manas Automation Engineer	Govind Raj BMS Engineer	Shakir Ahammed Electrical Autoamtion Engineer	Alaghu Maintenance Engineer	Harikrishnan S Automation Engineer	Anoop S Automation System Engineer	Tony Tomy Prime Move Technologies
						
Sujith BMS Engineer	Muthuraj Naraiuran Control	Vennila Reshma Industries	Jagannathan Uthseav Marketing	Premkumar AVB Taknosolves	Shanmugavel AVB Taknosolves	Salman Khan AVB Taknosolves
						
Jayaram Kumar AVB Teknosolves	Vettrivel Control Systems	Edward Reshma Industries	Gokul B AVB Teknosolves	Rahul B AVB Teknosolves	Arun K Marine Automation Engineer	Majitha Ainsoft Solution
						
Vines Peter IPCS Global	Akhil S GMI Ravipuram	Gopi Krishnan Automation Engineer	Shaheer Zain Automation Engineer	Akhay S Babu Service Technician BMS	Sajd N Service Technician BMS	Udayashankar SSS Systems
						
Iftikkar Akram Kumar Industries	Avinash Raj RSCT Technologies	Chinnasamy Pico Automation	Justo Alex Emrik System	Hari Vishnu Pavithran Techno Part TVR	Rekha Vijayan Automation Engineeet	Jithin Ramakrishnan Automation Engineer
						
Naiju S Nizar Automation Training	Vishnu V Dev Automation Training	Sanam Wotek Engineering Systems Pvt	Krishnanunni Mettech Home Autoamtion	Aravindh Flax Automation	Ajeesh Ashok Autoamtion Training	Supriya Technical Suport Engineer

The world says



I got to know of IPCS Automation from an online search. I wasn't sure of what I saw online, but being a risk taker, I enrolled for their ASE course. I have spent about one month here from one session to the other. They are exceptionally good on all areas.

- Orute Irogbo Gareth - Nigeria



If you want 85% practical then think about coming to IPCS. If you want to be well trained as an Automation System Engineer, then come to IPCS. They have well trained instructors too.

Damiete Bob Manuel - Kenya



Detailed information which is relevant to industries, excellent lab facilities and good student to lecturer ratio.

Sikhumbzo Ncube - Zimbabwe



Excellent teaching approach, hand on experience, I would recommend anyone who might want to join IPCS, the staff welcoming and always smiling

Kennady Kimurgor Kemboi - Nigeria



I did Automation System Engineer. It was an awesome experience. They have many PLC's to play around with and instructors were knowledgeable. Good place to get introduced with PLC, SCAD.

Mohammed Rathiu - Maldives



Wonderful experience from team IPCS. I have joined here industrial automation course. They have a great team the faculties are very experienced and their support in the learning phase is remarkable.

Brown Kazonganga - Zimbabwe



I'm very glad to be one of IPCS Cochin trainee graduated in BMS & Automation. This a good genesis of my engineering carrier.

Aimable Twambaze - Kenya



Let me say thank you to IPCS providing me the best. BMS course was really good. The syllabus, lab & also the experienced faculties. Thanks to all my instructors for encouraging me during my time at IPCS.

Ndhlova Jablani - Zimbabwe



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