

Complete Placement Preparation Masterclass

One Stop Platform to prepare for placements, upskill yourself. Self paced courses from basic to advanced level to crack service and product based companies. You might be a CS or Non-CS student, You might be zero in aptitude and coding.

Whatever be the case we can get you placed!



Mindtree

HCL

Tech Mahindra

ZS Associates

Deloitte

hp

Persistent

infosys

IBM

Capgemini

HEXaware

virtusa®
Accelerating Business Outcomes

DELL

tcs TATA CONSULTANCY SERVICES

Netcracker

Goldman Sachs

cognizant

Mphasis
The Next Applied

L&T Infotech

wipro

A 3D illustration of a person with blue hair, wearing a yellow t-shirt and light blue pants, sitting on a large red beanbag chair and working on a laptop. To the left is a small potted plant on a stand. A large green circle surrounds the company logos.

Aptitude | Coding | Latest Technologies Certifications | Interviews and much more

Why Choose Complete Placement Preparation Masterclass by Talent Battle?



400+ Hours Foundation of Self Paced Training on **Quant, Reasoning, Verbal, C, C++, Java, Python, DSA, OS, CN, DBMS**



Interview preparation Training along with **One-to-One Mock Technical & Personal Interviews** by experts



Latest Technologies Certification Courses to get higher packages. 500+ hours of courses on **Full stack development, AI, ML, Data science, Data Analytics, Tableau, PowerBI and much more**



Company-specific Self Paced training for 30+ service and product-based companies.

TCS NQT | Accenture | Capgemini | Cognizant | Infosys | Persistent
Deloitte | Mindtree | Virtusa | Goldman Sachs | Bosch | Samsung
Amazon | Nalsoft | Zoho | Cisco and 15+ more companies preparation.



50+ Projects based on Latest Technologies and based on C, C++, Java and Python to build your Profile



About Talent Battle

Talent Battle Pvt. Ltd. is an Edu-tech Company managed by a group of Mentors and Subject Matter Experts with 10+ years experience in the Training and Placement Industry.

We provide a one-stop platform for Engineering and non-engineering students across India to develop and practice their skills for better career decisions as well as for improving their employability.

The course content includes Aptitude(Cognitive), Programming, Company Specific Training, Extra Projects, advanced technologies certifications, Analytics-based test series, and Technical and HR interview preparation.

Our Training programs are designed by Subject Matter Experts with an average of 10+ years of experience. Our Training content will cater to On-campus, Off-campus and walk-in interview drives.



Call us on: +918149291675 for free Placement Mentorship

Talent Battle has partnered with TCS iON to provide content to the students who register for paid TCS NQT exam.

We have provided Aptitude, Programming languages (C, CPP, Java, Python), DSA, DBMS, OS, CN, and mock test series to TCS for their TCS NQT exam. TCS iON provides our content to the students who appear for the Paid TCS NQT exam.

Received special appreciation award from TCS for the partnership



YouTube 263K+ Subscribers, Recognition from Government of India as a startup Selected as Top 25 Startup in India Fund Fest,



Business Standard

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Talent Battle has recently crossed 3.5 Lakh registered students on their platform



Last Updated : Feb 13 2023 | 11:30 PM IST

Follow Us



New Delhi [India], February 13 (ANI/SRV): Ed-tech company Talent Battle, which is the one-stop platform for placement preparation has crossed 3.5 Lakh registered students on their platform.

Starting with a small batch of 35 students

We are proud to be featured in more than 70 news articles

upturn **AhmedabadMirror**

lokmat Times

JioNews Your News. Your Language.

Entrepreneur View

The BluntTimes®

United News of India
India's Multi Lingual News Agency

1st इंडिया NEWS

Google News

Startup Reporter
By Bennett Media PVT LTD

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Republic NewsIndia

Global NEWS

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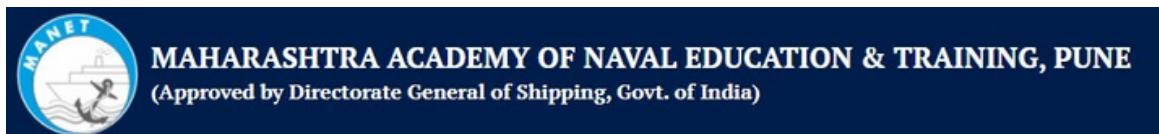
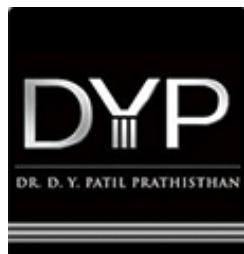
BUZZNEWSROOM

and many more news & media houses...

OUR ESTEEMED CLIENTS



OPJU



Call us on: +918149291675 for free Placement Mentorship

Complete Placement Preparation

Masterclass Roadmap



Call us on: +918149291675 for free Placement Mentorship

Our Placement Reports

97.6% 

Selection Ratio
of Placement Success Dashboard Students

4.91 / 5


Overall Rating
out of 5

**Highest CTC
40 LPA**

**Average CTC
8.5 LPA**

**Average Offers
per student: 2.7**

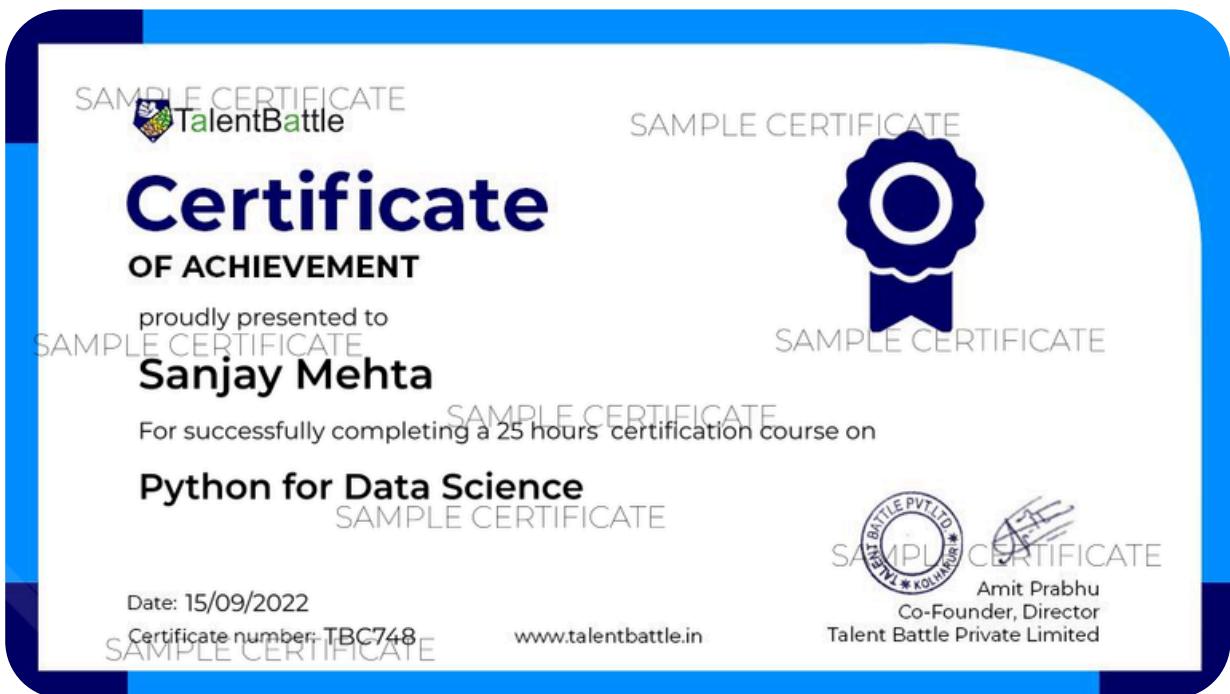
85% students
placed with CTC more
than 6 LPA

Referral Opportunities
in Top Companies & Startups
by Talent Battle

Students from
5000+ colleges
use Placement Success
Dashboard for Placement
Preparation

- **50000+ placed** students (in the last 10 years)
- Our Students placed in **600+ Companies**
- **10 Lakh+ Students** Prepare with Talent Battle Resources Every Year

Talent Battle Certifications



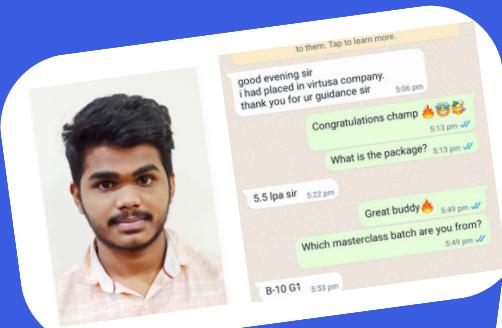
Get a Free Mentorship from experts for your Campus Placement Preparation

- Discuss your queries with experts
- Get a roadmap for your placement preparation

Click to know more



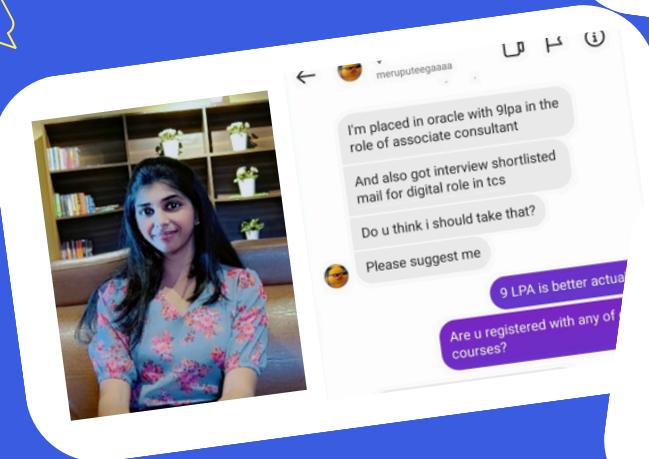
Some of our placed students



Somarouthu Krishna Teja
Placed in Virtusa
5.5 LPA



Shubham Verma
Placed in Capgemini
7.5 LPA



Shrinija Kalluri
Placed in Oracle
9 LPA



Nandan Bhandari
Placed in LTI
5 LPA



Aditya Kulshrestha
Placed in Cognida
7.8 LPA



Rohit Borse
Placed in Accenture
6.5 LPA

Tools & Technologies

that you will learn



Our Team



Amit Prabhu

Co-founder

9+ years of experience in training students for Quantitative Aptitude, Verbal & Monitoring students for Campus Placement Preparation



Ajinkya Kulkarni

Co-founder

9+ years of experience in training students for Reasoning, Interview Training & Mentoring Students for Campus Placement Preparation



Rohit Bag

Lead Technical Trainer

10+ years of experience in training students for Programming Languages & Core Computer Science Subjects along with Company Specific Training



Vaishnavi K Dharan

Technical Trainer

5+ years of experience in training students on different Programming Languages and Data Structure. Master certified trainer in Robotic Process Automation in Automation Anywhere.



Poojitha Renati

Lead Aptitude Trainer

5+ years of experience in training students for Aptitude and Logical Reasoning. Trained more than 5000+ hours in various institutes including GITAM, Parul, KITS, JNTU and more



Chand Basha

Lead Aptitude Trainer

8+ years of experience in training students Quantitative Aptitude, Logical Reasoning & Verbal Ability for Campus Placements & Competitive Exams



Jasleen Chhabra
Mentor-Training and Placement

3+ years of experience in dealing with students and their counselling related to Academic problems as well as their placements.



Niranjan Kulkarni
Program Manager - Training and Placement

15 years of overall multi-functional experience in Industry and Academia, in managing diverse functions such as Training, and Human Resource Management.



Akshay Paricharak
Customer Service Manager

8+ years of experience in Customer service, Students counselling, Business development, Project co-ordination, Strategies Implementation, Planning and Execution.

Industry Mentors



Sandip Karekar
Industry Mentor

8 years of Industry experience and currently working with Mastercard. Decent understanding of core technologies in Computer Science & Information Technology and passionate about learning Cutting-Edge technologies.



Mayuresh Diwan
Industry Mentor

Placement Mentor: 4+ years of experience in automotive software development.



Swapnil Patil
Industry Mentor

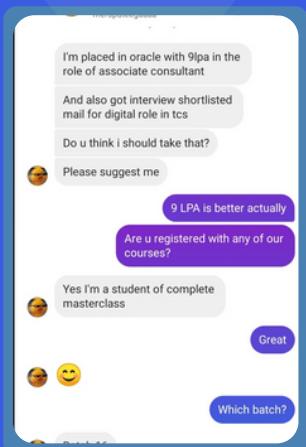
Lead Engineer at John Deere
Over 4+ years of experience as a Software Developer. Having expertise in developing and maintaining web and desktop applications of different domains like Telecom, Simulations and Automations, ERP and CRM



Shadab Gada
Industry Mentor

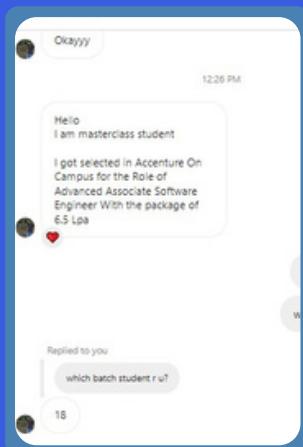
Software developer with 3+ years of experience in design, developing, testing and maintenance of web based applications. Passionate about learning new technologies, always eager to share my knowledge, love interacting with new people.

Some of our placed students



Srinija Kalluri

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ORACLE - 9 LPA



Rohit

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ACCENTURE - 6.5 LPA



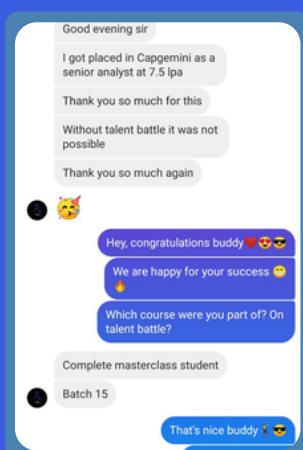
Megha Ganguly

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED COGNIZANT, WIPRO & BMC INDIA - 12.5 LPA



Aditya Kulestha

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT COGNIZANT - 7.8 LPA



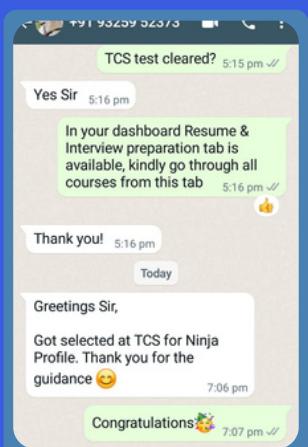
Shubham Verma

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT CAPGEMINI - 7.5 LPA



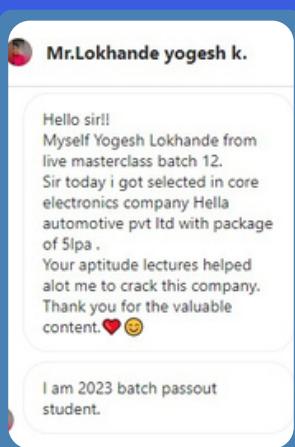
Amardeep Prajapati

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT HAPPIEST MIND TECHNOLOGY - 5.4 LPA



Rutuja Jangam

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT TCS NINJA



Yogesh Lokhande

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT HELLA ELECTRONICS - 5 LPA



Vikas Varak

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT TCS NINJA

FAQs

1 What is Talent Battle?

Talent battle is a group of mentors and educators who help students to prepare for their On and Off campus placement opportunities. We have trainers with an average of 10 years of experience in training students for their Tech company drives. We train students on Aptitude, Programming, communication skills, projects, advance technologies and all other necessary skills to get placed in their dream companies. If you want to get placed in any of your dream companies, then join our complete Placement Success Dashboard and fulfill your dream!

2 When and how to prepare for campus placements?

The best time to start preparing for your campus is in your third year of engineering. During this time you can start preparing for your Aptitude, Verbal and Programming skills.

Most of the companies have a similar testing pattern for selecting students. There are typically tests on aptitude, programming and communication skills. The short answer for this question is, **prepare with Talent Battle's Placement Success Dashboard** as we cover all of the above mentioned topics in detail.

3 What is Complete Placement Preparation Masterclass?

It is a combination of Concept Clearing lectures for Aptitude, Coding, DSA + Company Specific Training for 30+ Companies PLUS Interview Preparation with Mock Interviews. Foundational and Company Specific Training available in Self-Paced Learning. Whenever companies launch their drives, you can study from company specific tab. Along with that we have 300+ hours of Full stack Development course, and 250+ hours of Advance certification courses like AI, ML, Data Science, etc will be available free of cost.

4 Why to chose Talent Battle?

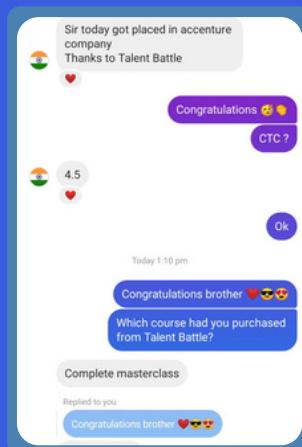
We have structured and disciplined way of preparation. You don't need to seek outside information source. All the study material will be available on Talent Battle's dashboard. We provide end to end support to our students until they get placed. Talent Battle is one stop solution to prepare for placement drives.

Some of our placed students



Somarouthu Krishna

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT VIRTUSA - 5.5 LPA



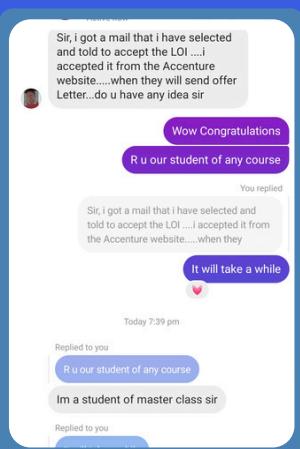
Ashutosh Gupta

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ACCENTURE - 4.5 LPA



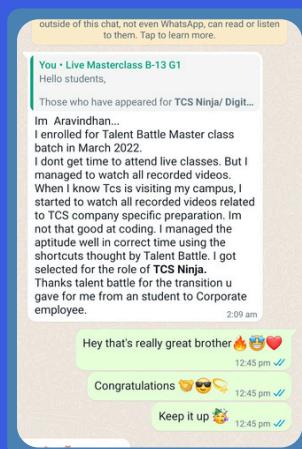
Nandan Bhandari

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT LTI - 5 LPA



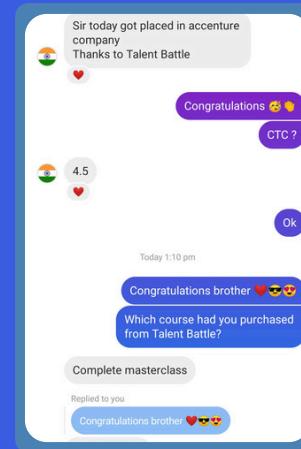
Alisha Shaik

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ACCENTURE



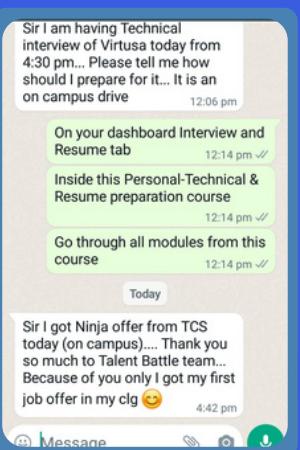
Aravindhan

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT TCS



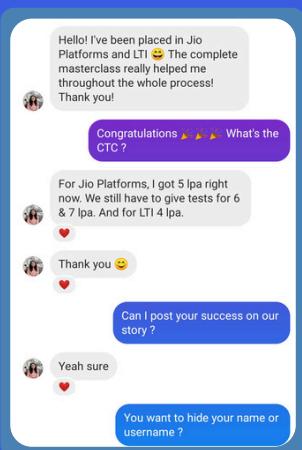
Ashutosh Gupta

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ACCENTURE - 4.5 LPA



Harsh Gupta

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT TCS NQT



Netra Ghodekar

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT JIO - 5 LPA



Reddy Swati

PLACEMENT SUCCESS DASHBOARD STUDENT
SELECTED AT ACCENTURE - 4.5 LPA

Don't delay your placement preparation anymore!!

Learn from the best!

Complete Placement
Preparation Masterclass

Check out our social media to get regular placement
related content & job drive updates



<https://talentbattle.in/>

Talent Battle Facebook

Talent Battle YouTube

Aptitude Syllabus

Quantitative Aptitude

- Alligation & Mixtures
- Area & Volume (Mensuration)
- Arithmetic Aptitude
- Word Problems
- Average
- Calendar
- Clock
- Compound Interest
- Data Interpretation
- Divisibility Rules & Remainder Theorem
- Geometry
- HCF & LCM
- Logarithm
- Number System
- Percentage
- Permutation & Combination
- Pipes & Cisterns
- Power, Surds & Indices
- Simplification
- Probability
- Problems on Ages
- Problems on Boats
- Problems on Trains
- Profit Loss
- Quadratic Equations
- Ratio Proportion
- Simple Interest
- Speed Distance Time
- Time & Work, Inverse
- Trigonometry, Heights and Distances



Aptitude Syllabus

Logical Reasoning

- Analogies
- Blood Relation / Family Tree
- Coding Decoding
- Course of Action
- Data Sufficiency
- Direction Sense
- Games and Puzzles
- Inequality
- Input and Output
- Letter Series
- Number Series
- Odd man out
- Pattern Recognition
- Seating Arrangements
- Spatial Reasoning
- Statement Argument
- Statement Assumption
- Syllogisms

Verbal Ability

- Active/Passive Voice
- Cloze Test
- Contextual Vocabulary
- Direct Indirect Speech
- Error Correction
- Error Detection
- Fill in the Blanks
- One Word Substitutes
- Para Jumble
- Reading Comprehension
- Sentence Completion
- Sentence Improvement
- Subject Verb Agreement
- Synonyms/Antonyms



Placement Success Dashboard

Syllabus

C Language - 25 hours </>

C Introduction

- Keywords and Identifiers
- Variables & Constraints
- C Data Types
- C Input/Output
- C Operators
- C Introduction Examples

C Flow Control

- If....else
- For loop
- While loop
- Break and Continue
- Switch Case
- goto statement
- Control Flow Examples

C Functions

- C Programming Functions
- C User-defined Functions
- C Function Types
- C Recursion
- C Storage Class
- C Function Examples

C Programming Arrays

- C Programming Arrays
- C Multi-dimensional Arrays
- C Arrays & Functions

C Programming Strings

- C Programming String
- C String Functions
- C String Examples

C Programming Pointers

- C Programming Pointers
- C Pointers & Arrays
- C Pointers & Functions
- C Memory Allocation
- Array & Pointer Examples

Structure and Union

- C Structure
- C Struct & Pointers
- C Struct & Function
- C Unions
- C Struct Examples

C Programming Files

- C Files Input/Output
- C Files Examples

Additional

- C Enumeration
- C Pre-processors
- C Standard Library
- C Programming Examples



C++ Language - 25 hours </>

C++ Introduction

- C++ Variables and Literals
- C++ Data Types
- C++ Basic I/O
- C++ Type Conversion
- C++ Operators
- C++ Comments

C++ Flow Control

- C++ if...else
- C++ for Loop
- C++ do...while Loop
- C++ break & continue
- C++ switch Statement
- C++ goto Statement

C++ Functions

- C++ Functions
- C++ Function Types
- C++ Function Overloading
- C++ Default Argument
- C++ Storage Class
- C++ Recursion
- C++ Return Reference

C++ Arrays & String

- C++ Arrays
- Multidimensional Arrays
- C++ Function and Array
- C++ String

C++ Structures

- C++ Structure
- Structure and Function
- C++ Pointers to Structure
- C++ Enumeration

C++ Object & Class

- C++ Objects and Class
- C++ Constructors
- C++ Objects & Function
- C++ Operator Overloading

C++ Pointers

- C++ Pointer
- C++ Pointers and Arrays
- C++ Pointers and Functions
- C++ Memory Management

C++ Inheritance

- C++ Inheritance
- Inheritance Access Control
- C++ Function Overriding
- Multiple & Multilevel Inheritance
- C++ Friend Function
- C++ Virtual Function
- C++ Templates

C++ OOP

- Encapsulation
- Polymorphism
- Abstraction



Java Programming - 25 hours



Java Introduction

- Java Hello World
- Java JVM, JRE and JDK
- Java Variables
- Java Data Types
- Java Operators
- Java Input and Output
- Java Expressions & Blocks
- Java Comment

Java Flow Control

- Java if...else
- Java switch Statement
- Java for Loop
- Java for-each Loop
- Java while Loop
- Java break Statement
- Java continue Statement

Java Arrays

- Java Arrays
- Multidimensional Array
- Java Copy Array

Java List

- Java Collections Framework
- Java Collection Interface
- Java List Interface
- Java Array List
- Java Vector
- Java Stack

Java OOP (Part I)

- Java Class and Objects
- Java Methods
- Java Constructor
- Java Strings
- Java Access Modifiers
- Java Recursion
- Java instance of Operator

Java OOP (Part II)

- Java Inheritance
- Java Method Overriding
- Java super Keyword
- Abstract Class & Method
- Java Interfaces
- Java Polymorphism
- Java Encapsulation

Java OOP (Part III)

- Nested & Inner Class
- Java Static Class
- Java Anonymous Class
- Java Singleton
- Java enum Class
- Java enum Constructor
- Java enum String
- Java Reflection



Java Programming - 25 hours



Java Exception Handling

- Java Exceptions
- Java Exception Handling
- Java try...catch
- Java throw and throws
- Java catch Multiple Exceptions
- Java try-with-resources
- Java Annotations
- Java Annotation Types
- Java Logging
- Java Assertions

Java Queue

- Java Queue Interface
- Java Priority Queue Interface
- Java Deque Interface
- Java LinkedList
- Java Array Deque
- Java Blocking Queue Interface
- Java Array Blocking Queue
- Java Linked Blocking Queue

Java Map

- Java Map Interface
- Java HashMap
- Java LinkedHashMap
- Java WeakHashMap
- Java EnumMap
- Java SortedMap Interface
- Java NavigableMap Interface
- Java TreeMap
- Java ConcurrentHashMap Interface
- Java ConcurrentHashMap

Java Set

- Java Set Interface
- Java HashSet
- Java EnumSet
- Java LinkedHashSet
- Java SortedSet Interface
- Java NavigableSet Interface
- Java TreeSet
- Java Algorithms
- Java Iterator
- Java ListIterator



Java Programming - 25 hours



Java I/O Streams

- Java I/O Streams
- Java InputStream
- Java OutputStream
- Java FileInputStream
- Java FileOutputStream
- Java ByteArrayInputStream
- Java ByteArrayOutputStream
- Java ObjectInputStream
- Java ObjectOutputStream
- Java BufferedInputStream
- Java BufferedOutputStream
- Java PrintStream

Java Reader/Writer

- Java Reader
- Java Writer
- Java InputStreamReader
- Java OutputStreamWriter
- Java FileReader
- Java FileWriter
- Java BufferedReader
- Java BufferedWriter
- Java StringReader
- Java StringWriter
- Java PrintWriter

Additional Topics

- Java Scanner Class
- Java Type Casting
- Java autoboxing and unboxing
- Java Lambda Expression
- Java Generics
- Java File Class
- Java Wrapper Class
- Java Command Line Arguments
- Packages
- Applets
- Basics of AWT and Swing
- Java Multithreading, Concurrency, and Performance Optimization
- Java Application Performance and Memory Management
- Java Memory Management
- Docker for Java Developers
- Kubernetes for Java Developers on Google Cloud
- Design Patterns in Java
- Java Beans



Python - 25 hours



- **About Python Programming**
- **Why to Learn Python?**
- **Python IDE**
- **First Python Program**
- **Python Basics:**
 - Keywords
 - Identifiers
 - Statement
 - Indentation
 - Comments
 - Docstrings
 - Variables, Constants, Literals
- **Python DataTypes:**
 - List
 - Tuple
 - Strings
 - Set
 - Dict
- **Python Type Conversion and Casting**
 - Implicit
 - Explicit



- **Python Input, Output, Import**

- **Python Operators:**

- Arithmetic
- Comparison
- Logical
- Bitwise
- Assignment
- Special Operators
- Membership Operators

- **Python Namespace and Scope**

- **Python Flow Control:**

- If-else
- If-elif-else
- Nested if
- For Loop
- While Loop
- Break
- Continue
- Pass

- **Python Functions:**

- Built-In
- User Defined
- Arguments
- Recursion
- Lambda



- **Python Built-In Functions on DataTypes**
- **Python Exception Handling**
- **Python OOP:**
 - Class
 - Object
 - Inheritance
 - Polymorphism
 - Data Abstraction
 - Constructors
 - Access Modifiers
- **Python File Handling**

Basic Inbuilt Library Modules

- Time
- Date-Time
- Calendar
- Copy

Framework

- Introduction to Django
- Installation of Django
- Django Features and Libraries
- Building Web Application using Django



Regular Expression

- Python RE module
- Regular Expression patterns
- RE methods and functions

Modules and Packages

- Using Modules in Programs
- Writing and Importing User Defined Modules
- Creation and Use of Packages



DSA Using C / C++ / Java / Python



DSA Introduction

- What is an algorithm?
- Why to learn algorithms?
- Asymptotic Notations
- Master Theorem
- Divide and Conquer Algorithm

Data Structures (Part I)

- Array
- Stack
- Queue
- Types of Queue
- Circular Queue
- Priority Queue
- Deque

Data Structures (Part II)

- Linked List
- Linked List Operations
- Linked List Traversals
- Types of Linked List
- Hash Table
- Heap Data Structure
- Fibonacci Heap
- Decrease Key and Delete node from Fibonacci Heap

Tree based DSA (Part I)

- Tree Data Structure
- Tree Traversal
- Binary Tree
- Full Binary Tree
- Perfect Binary Tree
- Complete Binary Tree
- Balanced Binary Tree
- Binary Search Tree
- AVL Tree

Tree based DSA (Part II)

- B Tree
- Insertion into B-tree
- Deletion from B-tree
- B+ Tree
- Insertion on a B+ Tree
- Deletion from a B+ Tree
- Red Black Tree
- Insertion in Red Black Tree
- Deletion from Red Black Tree

Recursion

- Introduction to Recursion
- Natural Number Check using Recursion
- Palindrome Check using Recursion
- Tower of Hanoi



DSA Using C / C++ / Java / Python



Introduction to Hashing

- Address Table
- Collision Handling
- Open Addressing
- Double Hashing
- Chaining v/s Open Addressing

Sorting and Searching Algorithms

- Bubble Sort
- Selection Sort
- Insertion Sort
- Merge Sort
- Quick Sort
- Counting Sort
- Radix Sort
- Bucket Sort
- Heap Sort
- Shell Sort
- Linear Search
- Binary Search

Greedy Algorithms

- Ford-Fulkerson Algorithm
- Dijkstra's Algorithm
- Kruskal's Algorithm
- Prim's Algorithm
- Huffman Code

Dynamic Programming

- * Flyod-Warshall Algorithm
- * Longest Common Subsequence Algorithm
- * Backtracking Algorithm
- * Sliding Window Algorithm
- * Loop Detection Algorithm
- * Rabin Karp Algorithm
- * Kadane's Algorithm
- * KMP Algorithm
- * Kosaraju Algorithm



Logic Building (Basic) - 10 hours



- **Introduction**
- How to Build Logic
- Logic Designing (Algorithm + Flowchart)
- ABC of Programming Language
 - Decision Making
 - Loops
 - Functions
 - Arrays
 - Implementations

DBMS Syllabus- 20 hours </>

Introduction

- Database concepts
- Architecture
- Differentiate between DBMS, RDBMS, and NoSQL
- Server and Client Database
- RDBMS products and vendors
- RDBMS Client Softwares
- Database Users
- Overall System Structure

Relational Model

- Structure of Relational Database
- Basic Structure
- Database Scheme
- Keys
- Query Languages



Topics to be covered (continued...)

The Relational Algebra

Fundamental Operations

- Formal Definition of Relational Algebra
- Additional Operations
- The Tuple Relational Calculus
- Example Queries
- Formal Definitions
- Safety of Expressions
- Expressive Power of Languages
- The Domain Relational Calculus
- Expressive Power of Languages

Integrity Constraints

- Domain Constraints
- Referential Integrity
- Basic Concepts
- Referential Integrity in the E-R Model
- Database Modeling using ER Model

Functional Dependencies

- Basic Concepts
- Closure of a Set of Functional Dependencies
- Closure of Attribute Sets
- Canonical Cover

Relational Database Design

- Normalization Using Functional Dependencies
- Desirable Properties of Decomposition
- Lossless-Join Decomposition
- Dependency Preservation
- Repetition of Information
- Boyce-Codd Normal Form



Topics to be covered (continued...)

SQL Introduction

- Writing Basic SQL Statements
- Writing Queries Based on Conditions
- Writing Queries Using Operators
- Setting Query Results

Creating and Modifying Tables

- Data Types
- Creating Tables
- NULL Values
- Primary Keys
- Foreign Keys
- Creating Tables
- Adding and Dropping Columns
- Renaming Tables
- Dropping Tables

SQL Statements

- Simple SELECTs
- Sorting Records
- The WHERE Clause and Operator Symbols
- Advanced SELECTs
- Aggregate Functions and Grouping
- Subqueries, Joins and Unions
- Conditional Processing with CASE

Grouping Data

- Aggregate Function
- Group By Clause
- Grouping Enhancement



Topics to be covered (continued...)

Subqueries & Joins

- Joins
- Inner & Outer Join
- Subqueries
- Using Subqueries in From clause

Inserting, Updating and Deleting Records

- INSERT
- Inserting Records
- UPDATE
- DELETE
- Updating and Deleting Records

Indexes

- Create and Drop
- Types of Index

SQL - Transaction

- Commit
- Rollback
- Savepoint
- Set Transaction

Views

- Creating Views
- Dropping Views
- Benefits of Views
- Creating a View

Stored Procedures

- Creating Stored Procedures
- Dropping Stored Procedures
- Creating a Stored Procedure
- Benefits of Stored Procedures



Topics to be covered (continued...)

Cursors

- SQL Cursor
- SQL Cursor Attributes.
- Controlling flow of executions
- Logic Tables

Triggers

- Triggers – Definition
- objective and its event type
- Application & database triggers
- Business application scenarios for implementing triggers
- Define DML triggers
- Define Non – DML triggers
- Triggers event type & body
- Instead of triggers

Query Optimization

- Understanding what is database tuning
- How to lower response time
- How to optimize the storage space
- Index Statistics and Selectivity
- How to tune the database

Introduction to Data Warehouse

- Introducing Data Warehouse and Business Intelligence
- Understanding difference between database and data warehouse
- Knowledge on ETL, Reporting, and Analysis tools



OS Syllabus



Operating System Basics

- Introduction
- Types of OS
- Functions and need of OS

Process and Threads

- Introduction to Process Management
- States of a Process, Process Scheduler, Process Table and Process Control Block, Interrupts
- Thread in OS, Threads and types, Difference between Process and Thread

CPU Scheduling

- Introduction
- FCFS- Non preemptive, Program for FCFS Scheduling
- SJF- Non preemptive, Non preemptive using Segment Tree
- Ljf, LRTF
- Round Robin Scheduling
- Multilevel Queue CPU Scheduling
- Preemptive Priority CPU Scheduling, HRRN CPU Scheduling, Different CPU Scheduling Algorithms in OS
- Fair-share CPU Scheduling, EDF, Time Slicing in CPU Scheduling

Process Synchronization

- Introduction, Critical Section, IPC.
- Semaphores, Mutex vs Semaphores, Producer Consumer Problem using Semaphores
- Dining Philosopher Problem Using Semaphores, Sleeping Barber problem in Process Synchronization

Deadlock

- Introduction, Deadlock Detection algorithm, Deadlock Detection and Recovery
- Deadlock Prevention and Avoidance, Banker's Algorithm, RAG

Memory Management

- Introduction, Design and Characteristics, Buddy System
- Fixed Partitioning in OS, Variable Partitioning, Non-contiguous Allocation in OS
- Logical and Physical Address in OS, Paging in OS, Page Table entries in Page Table
- Hashed Page Table, Segmentation in OS, Virtual Memory in OS
- Page Replacement Algorithms in OS, Overlays in Memory Management



Topics to be covered (continued...)

Disk Management

- Files in OS, Structures of Directory in OS
- File Allocaton Methods, Free Space management

Disk Scheduling

- Disk Scheduling Algorithm, SSFT algorithm
- SCAN Disk Scheduling Algorithm, C-SCAN Disk Scheduling Algorithm, LOOK Disk Scheduling Algorithm
- C-LOOK Disk Scheduling Algorithm, N-Step SCAN disk scheduling



CN Course Syllabus



- Module 1: Introduction
- Module 2: Data Communication Fundamentals
- Module 3: Data Link Control
- Module 4: Switched Communication Networks
- Module 5: Broadcast Communication Networks
- Module 6: Internetworking
- Module 7: Routing and Congestion Control
- Module 8: Network Security

Lecture - 1 Emergence of Networks & Reference Models

Lecture - 2 Network Topology

Lecture - 3 Physical Medium - I

Lecture - 4 Physical Medium - II

Lecture - 5 Multiplexing (Sharing a Medium)

Lecture - 6 Telecom Networks

Lecture - 7 Switches - I

Lecture - 8 Packet Switches

Lecture - 9 SONET_SDH

Lecture - 10 Fiber Optic Components

Lecture - 11 Routing and Wavelength Assignment

Lecture - 12 Protection and Restoration

Lecture - 13 Multiple Access

Lecture - 14 Token Based Mac

Lecture - 15 Data Link Protocols



Lecture - 16 Error Control

Lecture - 17 Stop & Wait Protocol

Lecture - 18 Satellite Communication

Lecture - 19 Ethernet - CSMA_CD

Lecture - 20 Modern Ethernet

Lecture - 21 Local Internetworking

Lecture - 22 Cellular Networks

Lecture - 23 Wireless Network

Lecture - 24 ATM - Asynchronous Transfer Mode

Lecture - 25 ATM Signaling, Routing and LAN

Emulation

Lecture - 26 Introduction to Routing

Lecture - 27 RIP - Distance Vector Routing

Lecture - 28 IP version 4

Lecture - 29 IP Version 6 & Mobile IP

Lecture - 30 UDP & Client Server

Lecture - 31 TCP

Lecture - 32 IP Multicasting

Lecture - 33 DHCP and ICMP

Lecture - 34 DNS & Directory

Lecture - 35 Congestion Control

Lecture - 36 QOS & Multimedia

Lecture - 37 Network Management

Lecture - 38 Security

Lecture - 39 FTP – SMTP

Lecture - 40 HTTP



Full stack development



Modules

- Module 1 : HTML
- Module 2 : CSS
- Module 3 : BOOTSTRAP
- Module 4 : JavaScript + Data Structures
- Module 5 : ReactJS
- Module 6 : AngularJS
- Module 7 : NodeJS
- Module 8 : MongoDB
- Module 9 : Code Review + Deployment Using Firebase Additional module
- Minor Projects : 08
- Capstone Project : 01

Module 1 : HTML

- Introduction to HTML
- Browsers and HTML
- Editor's Offline and Online
- Tags, Attribute and Elements
- Doctype Element
- Comments
- Headings, Paragraphs, and
- Formatting Text
- Lists and Links
- Images and Tables



Module 2 : CSS

- Introduction CSS
- Applying CSS to HTML
- Selectors, Properties and Values
- CSS Colors and Backgrounds
- CSS Box Model
- CSS Margins, Padding, and
- Borders
- CSS Text and Font Properties

Module 4 : JavaScript + Data Structures

- Introduction to JavaScript
- Applying JavaScript (internal and external)
- Understanding JS Syntax
- Introduction to Document and
- Window Object
- Variables and Operators
- Data Types and Num Type
- Conversion
- Math and String Manipulation
- Objects and Arrays
- Date and Time
- Conditional Statements
- Switch Case
- Looping in JS
- Functions

Module 3 : BOOTSTRAP

- Bootstrap containers
- Tables, Images, Colors
- Alerts, Buttons
- Spinners, Cards
- Pagination, Drop Down
- Carousel
- To-do App - Develop To-do App
- Frontend using Bootstrap
- GitHub Overview

Module 4 : JavaScript + Data Structures (cont.)

- Arrays
- Linked List
- Stacks
- Queues
- Maps
- Hashing
- Understanding and working with DOM
- Developer tools in Browsers
- JQuery
- Prototypes
- Closures
- Local Storage
- Ajax
- Promises
- ES5 vs Es6 vs Es7
- Event loop in JavaScript



Module 5 : ReactJS

- React Intro
- Install node
- Create an app using create-react-app
- Understanding basics of react app
- Understanding JSX
- Understanding virtual DOMS, Single page apps
- React Lifecycle
- States
- Class components vs functions components
- Event handling
- Props

Module 5 : ReactJS (cont.)

- Building a basic Forms using
- React
- Routes
- Conditional Rendering
- Pure Components
- High Order components
- Controlled vs Uncontrolled components
- Redux
- Babel, webpack
- Add Redux in a Project and
- build using webpack
- Creating a Mock API Server
- Axios
- Server-Side Rendering
- SASS Overview



Module 6 : AngularJS

- Introduction
- Expression and Data Binding
- Working with Directives
- Controllers
- Filters
- Forms
- Modules
- Services
- Ajax in AngularJS
- Routing

Module 7 : NodeJS

- Node js Overview
- Node js - Basics and Setup
- Node js Console
- Node js Command Utilities
- Node js Modules
- Node js Concepts
- Node js Events
- Node js with Express js
- Node js Database Access
- Socket Programming

Module 8 : MongoDB

- SQL and NoSql Concepts
- Create and Manage
- MongoDB
- Migration of Data into
- MongoDB
- MongoDB with PHP
- MongoDB with NodeJS
- Services Offered by
- MongoDB



Module 9 : Code Review + Deployment using Firebase

- Tools for code review
- Standard coding conventions
- Firebase
- Deploy using Netlify
- Deploy using AWS Ec2
- Get code reviewed by
- Software developers and
- deploy projects

Additional module

- Node js Overview
- Node js - Basics and Setup
- Node js Console
- Node js Command Utilities
- Node js Modules
- Node js Concepts
- Node js Events
- Node js with Express js
- Node js Database Access
- Socket Programming



Data Science Course Syllabus



- Intro – What is Data Science?
- Lifecycle of Data Science Project
- Top 5 Python Libraries
- Linear Regression Analysis
- Logistic Regression
- Confusion Matrix
- Intro - ML
- Decision Trees in ML
- Random Forest
- SVM
- K-Means
- PCA in ML
- Roadmap to become Data Scientist
- Summary



ML & AI Syllabus



The course is divided into 8 main parts:

1. Data Science Tool kit
2. Statistics & Exploratory Data Analytics
3. Machine Learning-1
4. Machine Learning-2
5. Natural Language Processing
6. Deep Learning
7. Reinforcement Learning
8. Deployment and Capstone Project

Data Science Tool kit

This part is a pre-preparatory course which is essential to start the journey of Data Science and Machine Learning. The major requirements are Python, SQL and Excel as well to some extent.

This part is divided into below 6 modules:

Introduction to Python: This module covers the core Python topics assuming no prior knowledge. Understanding the structure of Python, Data Structures like lists, tuples, dictionaries, etc. is covered.



Python for Data Science: The 2 most important libraries of Python – NumPy and Pandas are covered in depth. NumPy and Pandas are essential for Data Analysis, cleaning and most of the core Data Science work.

Math for Machine Learning: Linear Algebra, Matrices, Multi-Variable Calculus and Vectors are covered in this module. These topics are a pre-requisite for understanding how ML algorithms work.

Data Visualization in Python: This module covers the dynamics of plotting graphs and trends using Python.

- **Data Analysis using SQL:** SQL is at the core of Data Analysis and Engineering. This module covers the basics of SQL like functions, clauses, queries and joins.
- **Advanced SQL:** This module covers more advanced topics like Database design, Window functions, Query Optimization, etc.

Statistics & Exploratory Data Analytics

Statistics and Data go hand in hand. Most of the Data Analysis runs statistical analysis under the hood which can then be explored further to get significant results.

This part covers below 5 modules:



- 1. Analytics Problem Solving:** This module covers the CRISP-DM framework for an overview of a Machine Learning project spanning from business understanding to deployment.
- 2. Investment Assignment:** A Data Analytics assignment as an investment banking firm employee.
- 3. Inferential Statistics:** This module covers the most important statistical concepts like Probability, Probability Distributions and the Central Limit Theorem.
- 4. Hypothesis Testing:** The what, why and how's of Hypothesis Testing are covered in this module. P-Value, different types of tests and implementation in Python.
- 5. Exploratory Data Analysis:** EDA brings out the information from the Data. This module covers Data Cleaning, Univariate/Bivariate analysis and derived metrics for ML.

Machine Learning-1

This part covers the basics of Machine Learning and some algorithms. It is essential to have a comprehensive knowledge of these before diving into more advanced topics.

It consists of 5 modules:



1. Linear Regression: This module covers the basics of linear regression, its assumptions, limitations and industry applications.

2. Linear Regression Assessment: A car price prediction assignment.

3. Logistic Regression: Univariate and Multivariate

Logistic Regression for classification ML.

Implementation in Python, evaluation metrics and industry applications are covered.

4. Naive Bayes: One of the easiest and most effective classification algorithms. This module covers the basics of Bayes Theorem, Naive Bayes classifier and implementation in a Spam-Ham classifier.

5. Model Selection: This module covers the model selection, Bias-Variance Tradeoff, Hyperparameter Tuning and Cross-Validation which are necessary to finalize the best ML model.

Machine Learning-2

This part covers more advanced topics of Machine Learning. It consists of different types of supervised and unsupervised algorithms.

The 8 modules covered are:



- 1. Advanced Regression:** This module introduces the Generalized Linear Regression and Regularized Regression techniques like Ridge and Lasso.
- 2. Support Vector Machine (Optional):** This module covers the SVM algorithm, its working, kernels and implementation.
- 3. Tree Models:** Basics of Tree models, their structure, splitting techniques, pruning and ensembles to form Random Forests are covered here.
- 4. Model Selection-Practical Considerations:** This module gives a hands-on for using model selection techniques to select the best model.
- 5. Boosting:** What are weak learners and strong learners, and how can they be joined together to form a great model. Various Boosting techniques are covered here.
- 6. Unsupervised Learning-Clustering:** This module introduces Clustering, its types and implementation from scratch.
- 7. Unsupervised Learning-Principal Component Analysis:** This covers the basics of PCA, its working and implementation in Python.
- 8. Telecom Churn Case Study:** Case Study to predict Customer Churn for a telecom operator.



Natural Language Processing

Natural Language Processing(NLP) is in itself a huge field. In this NLP part, all the building blocks of text data handling are covered along with chatbots.

The 4 modules included are:

- 1. Lexical Processing:** This module covers the basics of NLP like text encoding, Regular Expressions, text processing techniques and advanced lexical techniques like Phonetic Hashing.
- 2. Syntactic Processing:** This module covers the basics of Syntactic Processing, different types of text parsing, Information Extraction and Conditional Random Fields.
- 3. Syntactic Processing-Assignment:** Implementing Syntactic processing to understand the grammatical structure of the text.
- 4. Semantic Processing:** This module introduces Semantic Processing, Word vectors and embeddings, Topic Modelling techniques followed by a case study.or.



Deep Learning

Deep Learning is widely used in the industry in many cutting edge applications for various types of data. In this part, all the types of Neural Networks are covered along with implementation.

The 4 modules covered are:

1. Introduction to Neural Networks: This module covers the basics of Neural Networks, activation functions and the Feed Forward network.

2. Convolutional Neural Network-Industry Applications: This module covers in detail the CNN, its structure, layers and working. It also covers various Transfer Learning models, Style Transfer and Data pre-processing of image data followed by a case study.

3. Neural Networks-Assignment: A CNN based case study.

4. Recurrent Neural Networks: This module covers another type of neural networks specially used for sequence-based data - RNN and LSTM along with their implementations.

Reinforcement Learning

In this part, we introduce you to another type of Machine Learning – Reinforcement Learning. You'll learn the basics including the classical reinforcement learning as well as Deep Reinforcement Learning.



This part covers below 3 modules:

- 1. Classical Reinforcement Learning:** This module covers the basics of RL like Markov Decision Process, RL Equations as well as Monte Carlo Methods.
- 2. Assignment-Classical Reinforcement Learning:** A tic-tac-toe assignment using RL.
- 3. Deep Reinforcement Learning:** In this module, we'll dive into Deep Q Networks, their architecture and implementation. It also covers more advanced topics like Policy Gradient Methods and Actor-Critic Methods.

Artificial Intelligence Course Syllabus

Pre preparatory content

- Introduction to python for data analysis
- Python for data science
- Math for machine learning
- Data visualisation in python
- Data analysis using sql
- Advanced sql



Statistics essential

- Analytics problem solving
- Investment assignment
- Inferential statistics
- Hypothesis testing
- Exploratory data analysis
- Group project

Machine learning – 1

- Linear regression
- Linear regression assignment
- Logistic regression
- Naive bayes
- Model selection

Machine learning – 2

- Advanced regression
- Support vector machine (optional)
- Tree models
- Model selection – practical considerations
- Boosting
- Unsupervised learning: clustering
- Unsupervised learning: principal component analysis



Natural Language Processing

- Lexical processing
- Syntactic processing
- Syntactic processing-assignment
- Semantic processing

Deep Learning

- Introduction to neural networks
- Syntactic processing
- Neural networks – assignment
- Convolutional neural networks -industry applications
- Recurrent neural networks
- Reinforcement learning
- Classical reinforcement learning
- Capstone project



Getting started with R Programming </>

Description- About the Course

This course has been designed for all skill levels and even if you have no programming or statistical background you will be successful in this course!

Who this course is for:

- This course is for you if you want to learn how to program in R
- This course is for you if you are tired of R courses that are too complicated
- This course is for you if you want to learn R by doing

Topics to be covered

GETTING STARTED WITH R

- Introduction to R Programming How to Install R
- Packages In R
- Data Types In R
- Data Structures
- Conditional Statements
- Loops
- Functions
- Lists
- Arrays
- Data Frames
- R Plot
- R Line
- R Scatterplot
- R Pie Charts
- R Bars



Data Visualizations using Tableau & Power BI </>

Description- About the Course

The ability to understand data and extract value from it presents a critical capability in today's data-rich world. Consequently, through lessons accompanied by examples, you will learn the foundations and principles of data visualization and embrace the power of data-enabled storytelling resulting from a detailed process. Moreover, learners will get an overview of different data representation types and develop skills to create trustworthy, accessible, elegant, and, thus, effective data visualizations.

By the end of this module, you will be able to:

- **Embrace** the power of data visualization and data-enabled storytelling in call-to-actions for audiences.
- **Understand** that communicating effectively to drive change and value involves the skillful combination of three key elements: data, narrative, and visuals.
- **Apply** conceptual foundations and data visualization principles through real-life examples.
- **Create** trustworthy, accessible, elegant, and effective data visualizations.



Who this course is for:

- Data analysts who want to communicate their data insights effectively.
- Marketers who want to craft convincing data stories to initiate decisions and actions. Managers who want to embrace data visualization and storytelling to persuade colleagues and collaborators.
- Students who want to add a solid understanding of data visualization

Topics to be covered:

BI tools: power BI

- Introduction to Power BI
- • The Key Features of Power BI Workflow Desktop Application BI Service
- Sourcing Data from The Web (OData And Azure)
- Building A Dashboard
- Data Visualization
- Publishing to The Cloud
- DAX Data Computation
- Row Context, Filter Context
- Analytics Pane, Creating Columns and Measures
- Data Drill Down and Drill Up
- Creating Tables, Binned Tables
- Data Modeling and Relationships
- Power BI Components: Power View, Map, Query and Pivot



Topics to be covered (continued...)

Tableau basics

- Introduction to Data Visualization and Tableau
- Tableau Products Suite
- Data Types
- Tableau File Types
- Connecting to Data Sources
- Handling R Data
- Connecting to MS Access Database
- Loading & Reshaping Data Aggregation
- Working with Continuous and Discrete Data Using Filters
- Working with Dates
- Using Calculated Fields & Parameters
- Creating Tables and Charts
- Building Dash Boards and Storyboards Sharing Your Work and Publishing for A Wider Audience



Internet of Things (IoT)



Introduction:

Ever wondered how automation is taking place everywhere by storm? Have you ever dreamt of making an automation project ?? Are you worried about upgrading your technical skills to enter the world of Industry 4.0 ??? Don't worry....!!! We are here for you....!!! Now it's Time to unlock the skills for the most popular technology at present in the world - the Internet of Things (IoT). Learn IoT and be part of the revolutionary world of Industry 4.0.

Duration: 18-20 Hrs.

Pre-Requisites: Basics of C Programming

Features:

- Learn today's most trending technology in the world.
- Hardware used: NodeMCU
- Full hands-On Training with interactive audio-visual theory.
- In depth explanation on microcontroller, sensors & actuators.
- Make your own internet-controlled automation system by programming the microcontroller very easily.
- Get yourself ready to enter in the world of 4th industrial revolution - **Industry 4.0**.



Syllabus Covered:

- IoT & Industry 4.0 introduction
- Study & revision of IoT prerequisites
- Interactive revision session with students on their networking related syllabus
- Intro about IoT ready hardware
- Getting started with base platform - Arduino
- Intro to first IoT ready hardware – NodeMCU - ESPxx Series.
- Installation & configuration of ESPxx SDK in Arduino software
- Writing first program for NodeMCU – Hello World
- Understanding input & output devices
- Understanding sensor & its types with interfacing to NodeMCU
- Understanding advanced communication protocol – I2C
- Interfacing I2C enabled advanced sensor with NodeMCU
- Understanding & Interfacing relay to control 230V AC devices
- Configuring NodeMCU for Wi-Fi network & obtaining IP address
- Creating first embedded micro web server - inline scripting
- Controlling output device from web browser over Wi-Fi
- Understanding cloud server
- Configuring open-source cloud server for data logging & analytics
- Uploading sensor data on cloud server for graphical visualization
- Knowing other alternative IoT platforms with their pros & cons
- Summary & Revision.





Introduction:

Talent Battle's Python Django Certification Training course is designed to make you an expert in Python Django Development and train you to build real-world web applications. This Instructor-led training is created by top industry experts and allows you to be a certified Django Developer.

Django Certification Course will provide you with the best knowledge on the basics of Django, MVC architecture, forms, etc with experts. Learning the best Django Certification Course makes you a master in this subject includes Django overview, project creation, creating apps, models, etc.

Technologies/platforms used:

- Python
- HTML
- CSS
- JavaScript
- BootStrap
- SQL / SQLite

Duration: 18-20 Hrs.



Prerequisites:

There are no prerequisites for this training. However, a familiarity with elementary programming constructs and the basics of HTML will be beneficial.

Who should do this certification?

- Freshers
- Web Developers
- UI Developers and Technical Leads
- Full Stack Developers
- QAs, Architects, and Technical Project Managers

The course is meant for both software professionals and graduate students who are willing to make a career in python and Django like courses.



What will you learn?:

After completing this Django Certification Course, you should be able to:

- Discuss the core construct of the Python Programming Language
- Explain the data structures used in Python
- Explain the approach of the Object-Oriented programming paradigm
- Play with databases and data persistence in the Database
- Create Views in Django
- Use the Django Template System
- Define Database Models for representing tables
- Create REST APIs



Syllabus:

1. Introduction to Front End

HTML

CSS

JavaScript

Bootstrap

2. Introduction to Django

Features of Django

Django Web Server

Understanding Django Environment

A Simple “Hello World” Application

3. Django Basics

Django Introduction and Installation

When to Use Django? Comparison with other Development Stacks

Django Project MVT Structure

How to Create a Basic Project using MVT in Django ?

How to Create an App in Django ?



4. Django Forms

How to create a form using Django Forms ?

Render HTML Forms (GET & POST) in Django

Django Form Fields

Initial form data - Django Forms

ModelForm - Create form from Models

Render Form Fields Manually

Django Formsets

5. Django Templates

a. Template Filters

b. Template Tags

c. Variables

d. Boolean Operators

e. for loop

f. if - Django Templates

g. Template Inheritance

6. Django Views

Function Based Views and Class Based Generic Views

Create View

List View

Detail View

Update View

Delete View



7.Django Models

ORM – Inserting, Updating & Deleting Data

Basic App Model – Makemigrations and Migrate

model data types and fields list

Uploading images in Django

Built-in Field Validations – Django Models

Custom Field Validations in Django Models

8. Using Databases in Django

9. Django RESTful APIs : CRUD Operations

10. Project : Creating a functional website in Django





Certification Name: GUI Development with Python - Tkinter

Introduction:

A Graphical user interface is a desktop application that allows users to interact with computers. Several Libraries in Python were used for GUI, and one of them is Tkinter.

It is Python's standard GUI library. When Python is used in conjunction with Tkinter, creating graphical user interfaces is quick and simple. Tkinter offers many controls, also known as widgets in a GUI application, such as buttons, labels, and text boxes.

In this certification course, you will be learning about different types of widgets present in Tkinter, such as Label, Button, Entry, Checkbutton, Canvas, Frame, etc along with their implementation.

Technologies/platforms used:

- Python
- Tkinter Library

Prerequisites:

- It is a must to know any programming language. It would be beneficial if you know the Python programming language, not in-depth but the basics would also help you take up this course easily.
- To undergo this certification course there are no compulsion concepts to be known, but knowing what are GUIs or HTML pages will also help you understand this course better.
- This is also an optional concept to be known as SQLite or little basics about database and data handling.

Who should do this certification?

- To undergo this Tkinter Certification Course there is no specific degree needed. Students or professionals who are keen on learning the Python programming language.
- This course is also for those students or professionals who are interested in developing applications using a Python GUI and Tkinter package that provides a variety of modules to design the window panel.
- This course is for programmers and developers who are willing to learn or upgrade their knowledge in Tkinter packages in Python to create widgets in GUI applications.

What will you learn?

- Master GUI Development with Tkinter and Python!
- Create multiple Tkinter projects, including forms, games, and even a chat app that interacts with a web API.
- Fully understand the two most important Geometry Managers in Tkinter: grid and pack.
- Learn how to use a wide variety of widgets, such as labels, entries, buttons, spinboxes, and even the Canvas!
- Gain in-depth knowledge of how themes and styles work in Tkinter, as well as how you can create your own styles and use them in your applications.

Why should you do this certification?

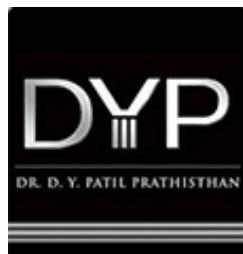
- Showcase your skills.
- Gain a competitive Edge.
- Stand out to recruiters.
- Land your dream job.
- This framework provides Python users with a simple way to create GUI elements using the widgets found in the Tk toolkit. Tk widgets can be used to construct buttons, menus, data fields, etc. in a Python application.



OUR ESTEEMED CLIENTS



OPJU



MAHARASHTRA ACADEMY OF NAVAL EDUCATION & TRAINING, PUNE
(Approved by Directorate General of Shipping, Govt. of India)

- This framework provides Python users with a simple way to create GUI elements using the widgets found in the Tk toolkit. Tk widgets can be used to construct buttons, menus, data fields, etc. in a Python application.
- Desktop applications are much easier to develop than websites. This is especially true for tools and utilities. It's easy to share Tkinter apps with others without needing them to install Python.
- Python GUI apps made with Tkinter look native to the Operating System. Tkinter apps have full access to the user's computer, which means you can store data locally, safely and securely.

Duration: 15 Hours

Syllabus:

1. Introduction
2. Python Refresher
3. Creating your First Tkinter App
4. Tkinter Widget Reference
5. Milestone Project
6. OOP with Tkinter
7. Tkinter Themes and Styles
8. Milestone Project
9. Build a chat app with Tkinter
10. Build a Snake Game with Tkinter





Introduction:

Robotics is one of the 9 pillars of Industry 4.0. It is a branch of engineering that involves the conception, design, manufacture, and operation of robots. In simple language, a robot is a programmable machine or a gadget automated to follow input commands or a set of instructions to reduce human tasks. Robots consist of sensors and processing units that help them perceive their environment, and the actuators and motors help them to move their legs and limbs. Health Care, agriculture, food, manufacturing, and warehouses are some of the industries utilizing robots in big numbers for efficiency and ease. Robotics is based on STEM (Science, Technology, Engineering & Mathematics), hence it empowers your skills in technology. Training focuses on use of sensors, actuators, power sources and programming of Microcontroller as the brain of a robot.



Special Features :

- Learn the basics of today's most popular technology in the world.
- Self-Paced Learning Audio-Visual theory.
- In-depth explanation on microcontrollers, sensors & actuators.
- Learn to make 4 basic & 2 advanced autonomous & semi-automatic robots in one course.
- Get yourself ready to enter in the world of 4th industrial revolution – Industry 4.0

Duration: 20-24 Hrs.

Pre-Requisites: Basics of C Programming, basics of electronics

Robot 2 - Line Follower Robot

- Understanding the Sensors
- Understanding Analog & Digital Sensors
- Interfacing analog line sensor with Arduino
- Calibrating & calculating the sensor threshold
- Setting an algorithm for Detecting & Following black line
- Programming the Robot to Follow the black line
- Installing sensors on robot
- Adjusting the sensor arrangement of Robot
- Final testing of Line Follower Robot

Robot 3 - Obstacle Avoider Robot

- Introduction to obstacle avoider robot
- Understanding the obstacle avoider logic
- Understanding Ultrasonic sensor
- Interfacing Ultrasonic Sensor with Arduino
- Calculating the distance of obstacle
- Setting an algorithm for Avoiding the obstacles
- Final testing of Obstacle Avoider Robot



Robot 4 - Wireless RC robot (RF Modules)

- Introduction to RF modules
- Understanding RF module pinout
- Interfacing RF module with Arduinos
- Testing communication between two Arduinos with RF module
- Installing RF module on robot
- Understanding Joystick & interfacing with Arduino (Remote Control side)
- Setting an algorithm for RC robot
- Final testing of RC Robot

Robot 5 - Wi-Fi Robot

- Introduction to ESP-32 based camera development board
- Understanding the board pinout
- Introduction to Wi-Fi Controlled Robot : Hardware Interfacing
- Setting up the ESP-32 to connect to Wi-Fi network
- Setting up an Algorithm to control robot over the Wi-Fi
- Connecting an Android App to robot
- Final testing of Wi-Fi Controlled Robot



Robot 6 - IoT based Smart Surveillance Robot

- Introduction to Industry 4.0
- Pillars of Industry 4.0
- Understanding the Vision Systems in automation
- Programming ESP-32 camera board for vision data in robot
- Building & testing IoT based Vision robot
- Final Overview of the workshop



Cloud Computing with AWS



Course Description

Introduction in AWS Cloud Computing Workshop and understand the core concepts of “Cloud Computing” plus the different attributes such as reliability, fault tolerance, elasticity, scalability and pay-as-you-go pricing. Amazon Web Services (AWS) is the cloud-service platform from the e-commerce giant, Amamazon.com Inc. It offers diverse functionalities, including compute power, database storage, and content delivery, to help businesses scale and grow efficiently. According to many, “cloud” is no longer a tool, but a way of life today. Advantages like lower operating costs, enhanced collaboration, and increased flexibility have pushed companies across industries and geographies to switch to cloud computing. According to a study, most companies are likely to shift to Cloud-only or Cloud-first policies by the end of this year.

With over one million global users and companies like Netflix, Twitch, LinkedIn, Facebook, etc. featuring among the top 10 AWS users (based on EC2 monthly spend), AWS continues to be the prime choice of public cloud adoption for both big and small companies.



An increase in the adoption of AWS by organizations has spiked the demand for AWS certified professionals. With about more than 380,000 cloud computing jobs available worldwide and about 1 million such jobs to be available in India by 2022, a career in AWS promises to be a lucrative one.

Learning AWS basics or investing in an AWS certification training program is key to jump-starting technical careers in the most in-demand cloud computing services. Adequate training gives IT professionals that extra edge in terms of a high-paying salary and a future-ready career. Our AWS Basics Beginners Guide will discuss some of the most essential services of this leading cloud computing technology and scope for career advancement in this fast-evolving and growing field.

A training in AWS certification helps you to get hands-on experience and in real-time. AWS training holds the extensive knowledge of Cloud Computing and its various services such as RDS, S3, EC2, VPC, Redshift, IAM, EBS, CloudFront, Snowball, Cloudwatch, DynamoDb, Machine learning, SES, SNS.



Pre-Requisite

- No AWS Cloud experience is necessary; we'll use the AWS Free Tier.
- No IT prerequisites are required.

Co-Requisite

- Desire, ingenuity, and passion to work for the common good.

Course Objectives

- Learn the core concepts with demos on how Cloud Computing is helping organizations to transform their business using cost-effective, scalable, and reliable IT architecture while only paying for what they use.
- Hear real-world examples of leading organizations who are using the cloud and what are they using it for.
- Understand the AWS service portfolio and the global footprint on which it is delivered.
- Busting the myths around cloud computing - legal, risk and compliance.
- Meet our solution architect and get your questions addressed.



Duration: 20 hrs

Syllabus:

- **Fundamentals of Cloud Computing**
 - Introduction to Cloud Computing
 - Cloud Environment Architecture
 - Cloud Computing Models
- **Infrastructure & Networking**
 - Introduction to Amazon Web Services
 - AWS Global Infrastructure
 - Introduction to Network Switches & Virtual Private Cloud
 - VPC & Subnets
 - IP Addressing in AWS
 - Understanding AWS Security Groups
 - Launching our first EC2 instance
 - EC2 instance types & Pricing Models
- **Elastic Load Balancers**
 - Understanding High Availability Configuration
 - ELB Configuration
 - Auto Scaling



- **Identity & Access Management**

- Understanding the IAM Policies
- IAM User, IAM Policy and IAM Role

- **Relational Databases**

- Introduction to Relational Databases
- Creating our first database structure in MySQL
- Getting started with DynamoDB

- **Domain Name System**

- Introduction to Relational Databases
- Creating our first database structure in MySQL
- Getting started with DynamoDB

- **Storage**

- Introduction to Block & Object storage mechanism
- Introduction to Elastic Block Store - EBS
- EBS Snapshots
- EBS Volume Types
- Introduction to Simple Storage Service (S3)
- Features of S3s



- **Machine Learning**
 - Rekognition Overview
 - Transcribe Overview
 - Polly Overview
 - Translate Overview
- **Monitoring**
 - Understanding CloudWatch
 - Auditing AWS environment with CloudTrail





Introduction :

MongoDB is a very popular NoSQL database that is fast and scalable. When scalability and speed are required, this database shines. It is a document database which imposes very little and has drivers for many programming languages. MongoDB is a general purpose, document-based, distributed database built for modern application developers and for the cloud era.

The MongoDB certification course makes you job-ready by helping you master data modeling, ingestion, query, sharding, and data replication with MongoDB, along with installing, updating, and maintaining the MongoDB environment. You will also gain proficiency in MongoDB configuration and backup methods as well as monitoring and operational strategies.



Technologies/platforms used :

- MongoDB
- MongoDB Compass
- Mongo Shell
- MongoDB Tools

Prerequisites :

Basic knowledge of any programming language and any database, SQL, and query language for databases. Working knowledge of Linux-based systems is also beneficial.

Who should do this certification?

- Back-End Developers - MongoDB
- MongoDB Database Architects
- MongoDB DBAs
- Full Stack JavaScript Developers (Node, Mongo, AWS, REST)
- Data Engineers and Data Scientists
- Big Data Developers and Analysts
- ETL and Database Developers
- Students aspiring for a career in MongoDB and Big Data



What will you learn?

- Understand what is MongoDB and its application
- Introduction, Installation, Configuration of MongoDB
- CRUD Operations (Create, Read, Update, Delete, Insert)
- On-demand Materialized Views, Capped Collections, Text Search
- Database References, Write Concern, Aggregation
- Operators - Query Projection, Comparison, Logical
- Operators - Evaluation, Array, Update
- Update Documents, Field Update Operator, Array Update Operator, Bitwise Update Operator
- Introduction to mongo Shell
- mongo Shell Methods - Collection Methods, Cursor and Database Methods, Bulk Operation Methods
- Indexes and Storage



Syllabus:

MongoDB Course Curriculum

Introduction to NoSQL Architecture with MongoDB

- What Is MongoDB?
- Downloading the required Software
- Installation and Configuration
- MongoDB Advantages
- MongoDB Data Modelling
- MongoDB Tools, Collection and Documents
- Configuration Files
- Touring the File Structure
- Securing the Installation

CRUD and the MongoDB Shell

- Introduction to CRUD
- Introduction to the MongoDB API
- Creating a Database, Collection and Documents



Data Modelling and Schema Design

- MongoDB Database References
- Model Tree Structures
- MongoDB Analyzing Queries
- MongoDB Atomic Operations
- Data Storage
- Working with Data Types
- Collections
- Document Data Types
- Creating _id Fields

Querying Data

- Databases and Collections
- Querying Collections
- Working with Operators
- Referencing a Database
- Querying Dates

Manipulating Data

- Inserting Data into Collections
- Updates
- Deletes
- Atomic Operations
- Removing Data



High Performance Options

- Creating Indexes
- Manipulating Index Behaviour
- Index Properties
- Specialized Index Types

Aggregation Framework

- Aggregating Results
 - Single Purpose Functions
 - The Aggregation Pipeline
 - Date Aggregation Operators
-
- Indexing and Aggregation
 - Indexing, query profiling and the query optimizer
 - Geospatial Indexes
 - Index types, Index Properties
 - MongoDB Advanced Indexing
 - MongoDB Indexing Limitations
 - Aggregation Introduction

MongoDB Deployment and Cluster setup

Introducing Drivers

MongoDB Create Backup

- Java, PHP, Ruby, Python



20+ Projects

1. Beginner Level

- Python
- Javascript
- Android Application

3. Intermediate Level

- Python
- IoT
- Desktop Application
- Machine Learning

2. Advanced Level

- IoT
- Mern Stack
- Javascript, Python
- Python (Data Science)

Project Titles

- Customer Churn Prediction Analysis using Ensemble Techniques
- Build Customer Propensity to Purchase Model in Python
- Website Vulnerability Scanning System
- Django POS system
- Create your own sentiment analysis model.
- Smallest Portable Mini Fridge
- Air Pollution Monitoring System
- Cricket Alerts in Python
- WhatsApp Cloning
- House Price Prediction
- Resume Builder Web Application
- Youtube Transcript Summarizer
- Notes and Password Manager
- Quiz Application
- Visualizing and Forecasting Stocks using Dash
- Chatbot Song Recommender System
- Chatting Application