{T} ZEE-TECH
A C A D E M Y

DATA SCIENCE

BENEFITS:

- COMPREHENSIVE CURRICULUM
- LEARN IN-DEMAND SKILLS
- CUTTING-EDGE TOOLS AND TECHNOLOGIES
- EXPERT INSTRUCTION
- JOB READINESS
- DATA VISUALIZATION
- DATA-DRIVEN DECISION MAKING
- ENTREPRENEURIAL SKILLS
- PROBLEM-SOLVING ABILITIES
- CAREER ADVANCEMENT

MACHINE LEARNING

IoT

AI

TALK TO US

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Shop no 3, Bypass Road Opp Kalsekar College
Near Ewar Complex Landmark [The Universe]

ZEE-TECH
ACADEMY

UNLOCK YOUR FUTURE WITH DATA SCIENCE EXCELLENCE

Master the Skills, Transform Your Career

Duration:

9 Months, 200 Hours Of Training,

Per Lecture 2 Hours Session

Let`s See What We Do?

In our ZeeTech Academy, we empower individuals with the knowledge and skills essential for success in the rapidly evolving field of data science. Delve into a comprehensive curriculum that covers key programming languages, statistical analysis, and machine learning, while working with cutting-edge tools and technologies. Led by industry experts, our course combines theoretical foundations with hands-on projects, ensuring a dynamic learning experience. Whether you're an aspiring data scientist, business analyst, or IT professional, our program provides the expertise needed to harness the power of data for impactful insights and innovation. Join us on a transformative journey where data becomes a powerful tool, and possibilities are limitless.

Who Should Attend

This course is suitable for:

- Aspiring Data Scientists
- Business Analysts
- IT Professionals
- Anyone passionate about leveraging data for insights

Our Structured Learning Modules.

Introduction To Data Science:

Understanding the role of data science, Introduction to data analysis tools and techniques, Machine Learning process and its Algorithms, The importance of Statistics in machine learning and deep learning

Programming with Python for Data Science:

Introduction to Python programming language, Variables, data types, and basic operations in Python, Control structures, Exceptions, OOPS Functions, and libraries in Python

Data Preprocessing and Analysis Using Python:

Introduction to Numpy and Pandas libraries, Working with Matplotlib, Seaborn, for Data Preprocessing and Visualization.

Statistics & Exploratory Data Analysis:

Mathematical Statistics that are working behind the Machine Learning Algorithms and the Exploratory Data Analysis

Complete Machine Learning:

Introduction to Machine Learning, Supervised and Unsupervised Learning, Ensemble Learning (Random Forests, Gradient Boosting), Support Vector Machines (SVM), Neural Networks and Deep Learning, Time Series Analysis and Forecasting
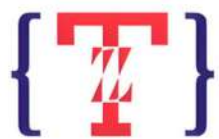
AI & Deep Learning:

Neural Networks Architecture, Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Transfer Learning and Fine-Tuning etc.

PYTHON

1. INTRODUCTION

ANACONDA INSTALLATION, INTRODUCTION TO PYTHON, DATA TYPES, OPERATORS, VARIABLES, DATA TYPES(INTEGER, BOOLEAN, FLOAT, LIST, TUPLE, STRING), OPERATORS IN PYTHON, LIST COMPREHENSION, DATA TYPES CONTD, SLICING THE DATA, INBUILT FUNCTIONS IN PYTHON, DICTIONARIES, SEQUENCE METHODS, COCATENATE, REPITION, LEN, MIN MAX FUNCTIONS, INDEX POSITION, ADDITION AND DELETION OF ELEMENTS, REVERSE, SORTING.

2. FUNCTIONS AND MODULES

SETS, SET THEORY, REGULAR EXPRESSIONS, DECISION MAKING STATEMENTS, RE MODULE(FINDALL, SEARCH, SPLIT, MATCH) IF, ELIF, GETTING INPUT FROM USER, IDENTITY OPERATOR, LOOPS, FUNCTIONS, LAMBDA FUNCTIONS, MODULES, PACKAGES, FILE HANDLING AND EXCEPTION HANDLING, FOR, WHILE LOOPS, FUNCTIONS, LAMBDA FUNCTIONS, MODULES AND NAMESPACES, MATH MODULE, CALENDAR MODULE, DATE & TIME MODULE,JSON MODULE WITH CONCEPTS OF JSON, OS MODULE, CONCEPTS OF PACKAGES, PIP.

3. OBJECT ORIENTED PROGRAMING

BASICS OF CLASSES AND OBJECTS, ATTRIBUTES AND METHODS, CLASS ATTRIBUTES/OBJECT ATTRIBUTES, DATA HIDING AND ENCAPSULATION(PRIVATE/PUBLIC ATTRIBUTES AND METHODS), INHERITANCE(INHERITANCE, OVERRIDING OF PARENTS ATTRIBUTES/METHODS, MRO, SUPER() FUNCTION, MULTIPLE INHERITANCE), METHOD RESOLUTION ORDER(MRO), CONCEPTS OF POLYMORPHISM.

GET IN TOUCH

DATA ANALYSIS USING PYTHON

1. DATA PREPROCESSING USING NUMPY

CREATING ARRAYS, ARRAY INDEXING, ARRAY SLICING, DATA TYPES, COPY US VIEW, ARRAY SHAPE, ARRAY RESHAPE, ARRAY ITERATING, ARRAY JOIN, ARRAY SPLIT, ARRAY SEARCH, ARRAY SORT, ARRAY FILTER.

2. DATA PREPROCESSING USING PANDAS

DATA FRAME CREATION WITH DATA,INDEX VALUES AND COLUMN NAMES, DATA WRNAGLING WITH MISSING VALUES, PANDAS OPERATIONS, PANDAS GROUP BY, INPUT OUTPUT OPERATIONS(READING FROM DIFFERENT SOURCES/SAVING PANDAS DATAFRAME IN A OUTPUT FILE ETC), MERGING, JOINING, CONCATENATION. ANY USE CASE THAT CAN BE SHOWN.

3. DATA VISUALIZATION USING MATPLOTLIB

INTRODUCTION, MATPLOTLIB HISTOGRAM, MATPLOTLIB BARCHART, MATPLOTLIB SCATTERPLOT, MATPLOTLIB PIECHART, MATPLOTLIB SUBPLOT, MATPLOTLIB SAVE FIGURE, IMAGES SHOW & COLOR BAR.
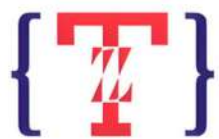
4. DATA VISUALIZATION USING SEABORN

INTRODUCTION, SEABORN LINE PLOT, SEABORN HISTOGRAM, SEABORN BAR PLOT, SEABORN SCATTER PLOT, SEABORN HEATMAP, SEABORN PAIRPLOT.

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SQL

1. INTRODUCTION TO MY SQL

Introduction to Databases, Introduction to RDBMS, Explain RDBMS through normalization, Different types of RDBMS, Software Installation(MySQL Workbench), Types of SQL Commands (DDL,DML,DQL,DCL,TCL) and their applications Data Types in SQL (Numeric, Char, Datetime)

2. DQL AND OPERATORS

SELECT:LIMIT,DISTINCT, WHERE AND,OR,IN, NOT IN,BETWEEN, EXIST, ISNULL IS NOT NULL, Wild Cards, ORDER BY, Usage of Case When then to solve logical problems and handling NULL Values (IFNULL, COALESCE)

3. GROUP OPERATIONS AND AGGREGATE FUNCTIONS

Group By, Having Clause. COUNT, SUM,AVG,MIN, MAX, COUNT String Functions, Date & Time Functions, Constraints, NOT NULL, UNIQUE, CHECK, DEFAULT, Primary key,Foreign Key (Both at column level and table level)

4. JOINS AND DDL

Inner, Left, Right, Cross, Self Joins, Full outer join,
DDL: Create, Drop, Alter, Rename, Truncate, Modify, Comment

SQL

5. DML AND TCL COMMANDS

DML: Insert, Update & Delete TCL: Commit, Rollback, Savepoint and Data Partitioning, Indexes and Views, Indexes (Different Type of Indexes) and Views in SQL

6. STORED PROCEDURES, FUNCTIONS AND CONSTRUCTS

Stored Procedures - Procedure with IN Parameter, Procedure with OUT parameter, Procedure with INOUT parameter
User Define Function, Window Functions - Rank, Dense Rank, Lead, Lag, Row_number

7. UNION, INTERSECT, SUB-QUERY

Union, Union all,Intersect, Sub Queries, Multiple Query
Exception Handling: Handling Exceptions in a query, CONTINUE Handler, EXIT handler

8. TRIGGER

Triggers - Before I After DML Statement

EXCEL

1. INTRODUCTION

MS OFFICE VERSIONS(SIMILARITIES AND DIFFERENCES), INTERFACE(LATEST AVAILABLE VERSION), ROW AND COLUMNS, KEYBOARD SHORTCUTS FOR EASY NAVIGATION, DATA ENTRY(FILL SERIES), FIND AND SELECT, CLEAR OPTIONS, CTRL+ENTER, FORMATTING OPTIONS (FONT,ALIGNMENT,CLIPBOARD(COPY, PASTE SPECIAL))

2. ARITHEMETIC FUNCTIONS

MATHEMATICAL CALCULATIONS WITH CELL REFERENCING (ABSOLUTE, RELATIVE, MIXED) FUNCTIONS WITH NAME RANGE, ARITHMETIC FUNCTIONS (SUM, SUMIF, SUMIFS, COUNT, COUNTA, COUNTIFS, AVERAGE, AVERAGEIFS, MAX, MAXIFS, MIN, MINIFS

3. LOGICAL FUNCTIONS AND LOOKUPS

LOGICAL FUNCTIONS: IF, AND, OR, NESTED IFS, NOT, IFERROR USAGE OF MATHEMATICAL AND LOGICAL FUNCTIONS NESTED TOGETHER, LOOKUP, VLOOKUP, NESTED VLOOKUP, HLOOKUP, INDEX, INDEX WITH MATCH FUNCTION INDIRECT, OFFSET

4. ADVANCE FUNCTIONS

COMBINATION OF ARITHMETIC, LOGICAL, LOOKUP FUNCTIONS, DATA VALIDATION (WITH DEPENDENT DROP DOWN), DATE FUNCTIONS: DATE, DAY, MONTH, YEAR, YEARFRAC, DATEDIFF, EOMONTH; TEXT FUNCTIONS: TEXT, UPPER, LOWER, PROPER, LEFT, RIGHT, SEARCH, FIND, MID,TTC, FLASH FILLS

5. DATA HANDILING AND DATA VISUALIZATION

NUMBER FORMATTING (WITH SHORTCUTS), CTRL+T(CONVERTING INTO AN EXCEL TABLE), FORMATTING TABLE, REMOVE DUPLICATE, SORT, ADVANCED SORT, FILTER, ADVANCED FILTER, CONDITIONAL FORMATTING (ICON SETS/HIGHLIGHTED COLOR SETS/DATA BARS/CUSTOM FORMATTING), CHARTS: BAR, COLUMN, LINES, SCATTER, COMBO, GANTT, WATERFALL, PIE

GET IN TOUCH

EXCEL

6. DATA SUMMARIZATION

PIVOT REPORTS: INSERT, INTERFACE, CROSSTABLE MULTIPLE REPORTS AND CHARTS CALCULATED, REPORTS; FILTER, FIELD, CALCULATED ITEM DASHBOARD:TYPES, GETTING REPORTS PIVOT CHARTS, SLICERS: ADD, CONNECT TO AND CHARTS TOGETHER, USE OF SLICERS. DESIGN AND PLACEMENT: FORMATTING OF TABLES, CHARTS, SHEETS, PROPER USE OF COLOURS AND SHAPES

7. CONNECTING TO DATA

POWER QUERY: INTERFACE, TABS; CONNECTING TO DATA FROM OTHER EXCEL FILES, TEXT FILES, OTHER SOURCES, DATA CLEANING, TRANSFORMING, LOADING DATA INTO EXCEL QUERY, USING LOADED QUERIES, MERGE AND APPEND, INSERT POWER PIVOT, SIMILARITIES AND DIFFERENCES IN PIVOT AND POWER PIVOT REPORTING. GETTING DATA FROM DATABASES, WORKBOOKS, WEBPAGES

8. VBA AND MACROS

VIEW TAB, ADD DEVELOPER TAB, RECORD MACRO: NAME, STORAGE RECORD MACRO TO FORMAT TABLE(ABSOLUTE REF), FORMAT TABLE OF ANY SIZE (RELATIVE REF), PLAY MACRO BY BUTTON, SHAPE, AS A COMMAND (IN NEW TAB) EDITING MACROS VBA: INTRODUCTION TO THE BASICS OF WORKING WITH VBA FOR EXCEL: SUBS, RANGES, SHEETS. COMPARING VALUES AND CONDITIONS, IF STATEMENTS, AND SELECT CASES. REPEAT PROCESSES WITH FOR LOOPS AND DO WHILE OR DO UNTIL LOOPS COMMUNICATE WITH THE END-USER WITH MESSAGE BOXES AND TAKE USER INPUT WITH INPUT BOXES, USER FORM

TABLEAU

1. INTRODUCTION

WHAT IS TABLEAU?, WHAT IS DATA VISUALIZATION?, TABLEAU PRODUCTS, TABLEAU DESKTOP VARIATIONS, TABLEAU FILE EXTENSIONS, DATA TYPES, DIMENSIONS, MEASURES, AGGREGATION CONCEPT, TABLEAU DESKTOP INSTALLATION, DATA SOURCE OVERVIEW, LIVE VS EXTRACT

2. CHARTS AND FORMMATING

OVERVIEW OF WORKSHEET SECTIONS, SHELVES, BAR CHART, STACKED BAR CHART, DISCRETE AND CONTINUOUS LINE CHARTS, SYMBOL MAP & FILLED MAP, TEXT TABLE, HIGHLIGHT TABLE, FORMATTING: REMOVE GRID LINES, HIDING THE AXES, CONVERSION OF NUMBERS TO THOUSANDS, MILLIONS, SHADING, ROW DIVIDER, COLUMN DIVIDER, MARKS CARD

3. FILTERS

WHAT ARE FILTERS?, TYPES OF FILTERS, EXTRACT, DATA SOURCE, CONTEXT, DIMENSION, MEASURE, QUICK FILTERS, ORDER OF OPERATION OF FILTERS | CASCADING | APPLY TO WORKSHEETS

4. CALCULATIONS

NEED FOR CALCULATIONS, TYPES: BASIC LOD'S, TABLE, EXAMPLES OF BASIC CALCULATIONS: AGGREGATE FUNCTIONS, LOGICAL FUNCTIONS, STRING FUNCTIONS, TABLEA CALCULATION FUNCTIONS, NUMERICAL FUNCTIONS, DATE FUNCTIONS LOD'S: EXAMPLES, TABLE CALCULATIONS: EXAMPLES

5. DATA COMBINING TECHNIQUES

WHAT ARE DATA COMBINING TECHNIQUES?, TYPES, JOINS, RELATIONSHIPS, BLENDING & UNION, DUAL AXIS, COMBINED AXIS, DONUT CHART, LOLLIPOP CHART, KPI CARDS (SIMPLE) KPI CARDS (WITH SHAPE)

TABLEAU

6. GROUPS

WHAT ARE GROUPS? PURPOSE, WHAT ARE BINS? PURPOSE, WHAT ARE HIERARCHIES? PURPOSE, WHAT ARE SETS? PURPOSE, WHAT ARE PARAMETERS ? PURPOSE AND EXAMPLES

7. ANALYTICAL DASHBOARDS

REFERENCE LINES, TREND LINE, OVERVIEW OF DASHBOARD: TILED VS FLOATING, ALL OBJECTS OVERVIEW, LAYOUT OVERVIEW, DASHBOARD CREATION WITH FORMATTING ACTIONS: FILTER, HIGHLIGHT, URL, SHEET, PARAMETER, SET, HOW TO SAVE THE WORKBOOK TO TABLEAU PUBLIC WEBSITE?
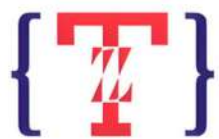
BASICS OF R

1. INTRODUCTION

DATA TYPES(NUMERIC, CHAR, LOGICAL, COMPLEX, VECTOR, LIST, MATRIX, FACTOR, ARRAY, DATA FRAME), RELATIONAL OPERATORS, LOGICAL OPERATORS.

2. LOOPS AND FUNCTIONS

IF, IFESLE, FOR LOOP, WHILE LOOP, REPEAT, FUNCTIONS, MERGING DATA FRAMES, ANALYZING IRIS DATASET USING APPLY FUNCTIONS, DPLYR PACKAGE(FILTER, SET, ARRANGE), DATA VISUZLIZATION USING GGPLOT2, SCATTERPLOT, HISTOGRAM, BOXPLOT.
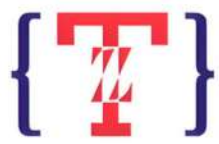
STATISTICS AND EDA

1. DESCRIPTIVE STATISTICS

MEASURE OF CENTRAL TENDENCY, DISPERSION, PROBABILITY DISTRIBUTION, CORRELATION AND COVARIANCE, DATA WRANGLING (MUNGING), OUTLIERS | MISSING VALUES, INFERENTIAL STATISTICS, SAMPLING TECHNIQUES, HYPOTHESIS TESTING.

2. LINEAR ALGEBRA

VECTORS, MATRICES, EIGEN VALUES, EIGEN VECTORS, DIFFERENT TYPES OF MATRICES, LINEAR TRANSFORMATION, ORTHOGONAL AND DOT PRODUCT, ANGLE BETWEEN VECTORS.
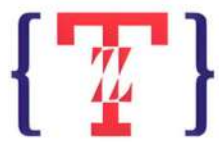
MACHINE LEARNING

1. SUPERVISED LEARNING

INSTALLATION AND USE OF SCIKIT-LEARN PACKAGE, LINEAR REGRESSION, MULTI-LINEAR REGRESSION, LOGISTIC REGRESSION, SIGMOID FUNCTION, ENTROPY, INFORMATION GAIN, GINI INDEX, DECISION TREE (CART), ENSEMBLE LEARNING, RANDOM FOREST, ENSEMBLE MODELING (BAGGING | BOOSTING | STACKING), XGBOOST, K-NEAREST NEIGHBORS (KNN), K SELECTION, DISTANCE METRICS, SUPPORT VECTOR MACHINE (SVM), KERNEL FUNCTIONS, NAIVE BAYES CLASSIFIER (NBC).

2. UNSUPERVISED LEARNING

HIERARCHICAL CLUSTERING (AGGLOMERATIVE/DIVISIVE), DENDROGRAMS, K MEANS CLUSTERING, RECOMMENDATION ENGINE.

3. MODEL IMPROVEMENT & VALIDATION

REGULARIZATION, LASSO, RIDGE, CROSS VALIDATION, CONFUSION MATRIX, ROC CURVE, OVERFITTING, UNDERFITTING PROBLEMS, PRECISION VS RECALL, F1 SCORE - TYPE I VS TYPE II ERROR, FEATURE SELECTION & FEATURE EXTRACTION, DIMENSIONALITY REDUCTION, PRINCIPAL COMPONENT ANALYSIS (PCA), SCREE PLOT, ELBOW METHOD.

{T} DEEP LEARNING AND A.I

1. INTRODUCTION TO AI & DEEP LEARNING

DEEP LEARNING VS MACHINE LEARNING, TECH ADVANCEMENT, ALL ABOUT ARTIFICIAL NEURAL NETWORKS (ANN), UNDERSTAND HOW DEEP NEURAL NETWORK WORKS?, DIFFERENT VARIANTS OF GRADIENT DESCENT, STOCHASTIC GRADIENT DESCENT VS ADAM VS OTHERS, HYPERPARAMETER TUNING, BATCH SIZE, LEARNING RATE, MOMENTUM.

2. DEEP LEARNING IN PYTHON

DEEP LEARNING PACKAGES IN PYTHON, GOOGLE TENSORFLOW FRAMEWORK, MODEL BUILDING WITH KERAS API WRAPPER, ACTIVATIONS | OPTIMIZERS | LOSSES, VALIDATION | EVALUATION METRICS | KERAS BACKEND, CALLBACKS.

3. CNN - CONVOLUTIONAL NEURAL NETWORKS

UNDERSTANDING ARCHITECTURE & VISUALIZING A CNN, KERNEL, DEPTH, STRIDE, PADDING, POOLING.

4. RNN - RECURRENT NEURAL NETWORKS

RECURRENT NEURAL NETWORK MODEL, TRAINING RNNS WITH BACK-PROPAGATION, LONG SHORT-TERM MEMORY (LSTM), GATED RECURRENT UNIT (GRU).

DEEP LEARNING AND A.I

1. NATURAL LANGUAGE PROCESSING (NLP)

UNDERSTANDING TEXT MINING & ANALYTICS, TOKENIZATION, STOP WORD REMOVAL, STEMMING.

2. INTEGRATING MODELS WITH WEB FRAMEWORK USING FLASK

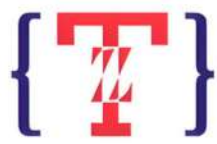INSTALLING FLASK FRAMEWORK, MAKING UI FOR MACHINE LEARNING MODEL, INTEGRATING MACHINE LEARNING MODEL WITH FLASK

Advance Machine Learning

1. NATURAL LANGUAGE PROCESSING (NLP)

INTRODUCTION TO AUTOMATED MACHINE LEARNING AND AUTOEDA,
AUTOML USING PACKAGES SUCH AS

- PYCARET
- SWEETVIZ
- AUTOVIZ
- AUTOSKLEARN.

INTRODUCTION TO ADVANCE SEMI SUPERVISED LEARNING ARCHITECTURE (ENCODER-DECODER), INTRODUCTION TO REINFORCEMENT LEARNING ALGORITHM (DEEP Q-LEARNING)

{ T } PROJECTS AND PORTFOLIO

1. PROJECTS / CASE STUDIES

SUPPLY CHAIN PREDICTION USING MACHINE LEARNING, SENTIMENT ANALYSIS USING RNN.

2. PORTFOLIO

PROJECTS, GITHUB, LINKEDIN, JOB PORTAL, APPLY FOR A JOB.

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" Imagination is more important than knowledge. Knowledge is limited, whereas imagination embraces the entire world, stimulating progress, and giving birth to evolution. "