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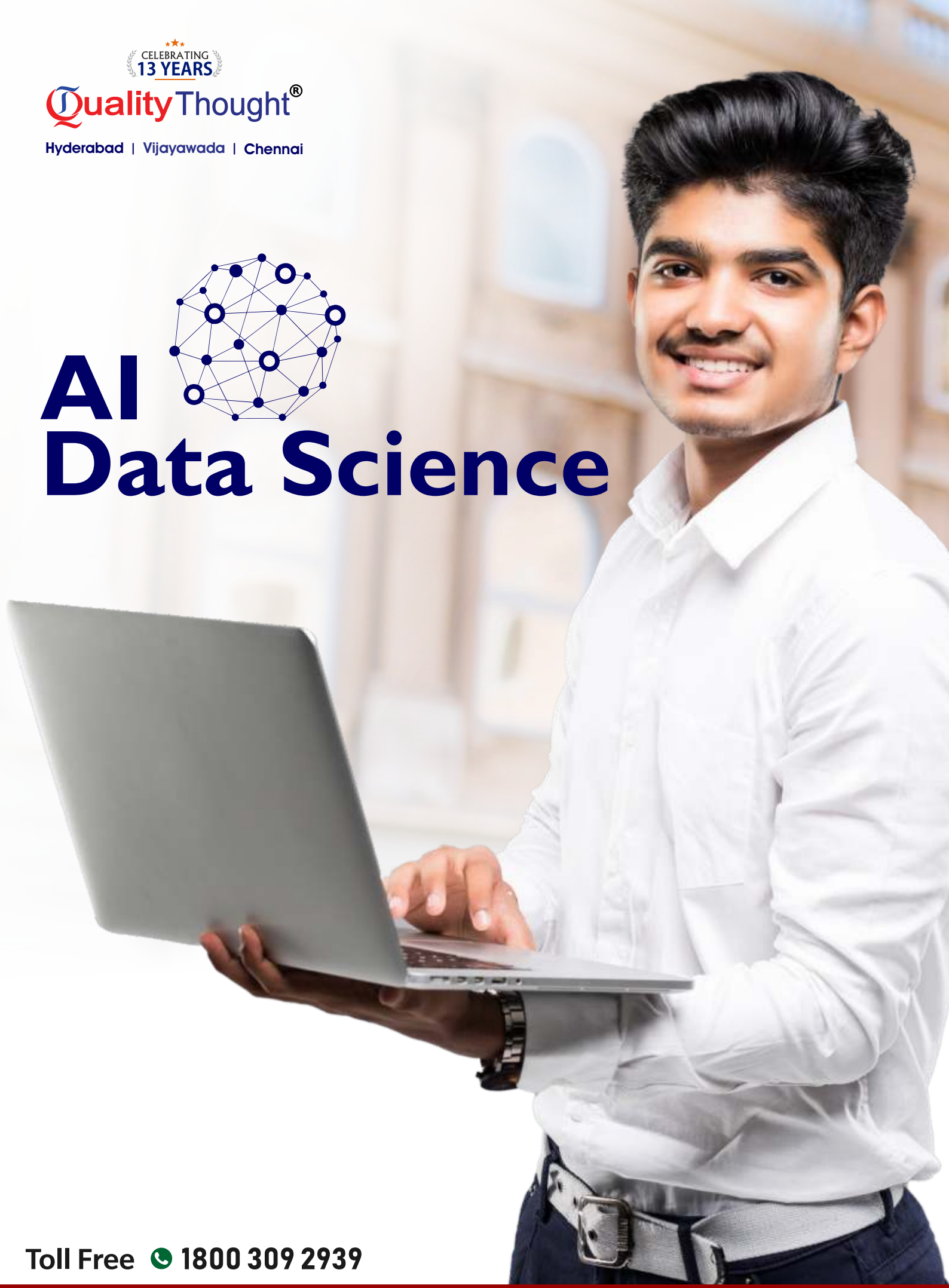
AI Data Science



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AI Data Science

About the course

This Data Science Master class is a full stack analytical program for absolute beginners with any graduation. We completely teach and explore the concepts from scratch.

Who can take the Course?

Fresh graduates, Career switchers, person looking for promotion on data engineering and analytics industry, career break persons, career returnees, computer and non-computer background degree holders, engineers, persons with keen self-dedication on studies.

Prerequisites

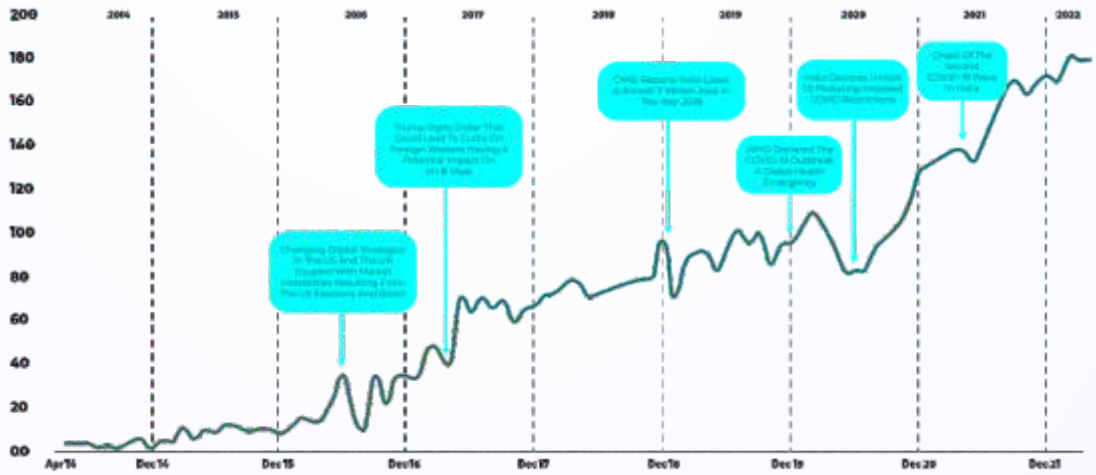
- ➪ Open mindset to learn and adopt new technologies
- ➪ Love to learn mathematics and statistics
- ➪ Programming thirst and problem-solving ability with business skills
- ➪ Analytical min set
- ➪ Dedicated 100 days for learning

Why Data Science?

➪ Data science is a rapidly growing and highly sought-after field that combines various disciplines such as statistics, mathematics, computer science, and domain expertise to extract insights and knowledge from data. Here are some reasons why data science has become increasingly important and why many individuals are choosing to pursue careers in this field

➪ Data abundance: In today's digital age, there is an unprecedented amount of data being generated from various sources such as social media, sensors, devices, and online platforms. Data science provides the tools and techniques to analyze and make sense of this vast amount of data, unlocking valuable insights that can drive informed decision-making.

➪ Business value: Data science has the potential to generate significant value for businesses across industries.



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PYTHON

1.Basics to advanced

- Why python?
- Installation and google colab setup
- Understanding various python notebooks like jupyter , spider.
- Variables and data types: numbers, Boolean and strings
- Operators
- Conditional statements
- Functions
- Sequences
- Files and Classes
- Object oriented programming
- Inheritance

2. Mathematics

2.1 Probability

- Basic probability
- Computing expected values
- Frequency
- Events
- Combinatorics
- Factorials
- Symmetry of combinations
- Bayesian inference
- Sets and Events
- Probability distributions
- Discrete distributions
- Applications of probability in statistics
- Applications of probability in finance
- Applications of probability in Data Science

2.2 Algebra

- Algebraic equations
- Exponents and logs
- Polynomial equations
- Factoring
- Functions
- Quadratic equations
- Calculus foundation
- Differentiation and derivatives
- Vectors
- Calculus
- Matrix

3. Statistics

- Types of statistics
- Descriptive statistics
- Types of data
- Population and sample
- Level of measurement
- Mean, median, mode
- Regression
- Variability
- R-squared
- Inferential statistics
- Correlation
- Covariance
- Distribution
- Normal distribution
- Standard normal distribution
- Central limit theorem
- Standard error
- Estimators and estimates
- Confidence intervals
- Z-score
- Margin of errors

4. Python For Data Science

4.1 NumPy

- Libraries in python
- NumPy arrays
- Indexing and selection
- Operations
- Data analysis with NumPy

4.2 Pandas

- Pandas series
- Data frames
- Multi indexing
- file operations

4.3 matplotlib and , seaborn

- Handling missing values with pandas
- Importance of Data visualization
- Frequency table
- Histogram
- Bar charts
- Pie charts
- Scatter plots
- Sub plots

4.4 NLTK

- NLP and NLTK (The Natural Language Toolkit) basics
- Tokenization
- Word and sentence tokenization

5. Deep Learning

- tensor flow and keras
- deep learning frame work
- Artificial neural network
- Natural language processing
- conventional neural network

6. Course project end to end

- Time series analysis
- Market price prediction

7. Power BI

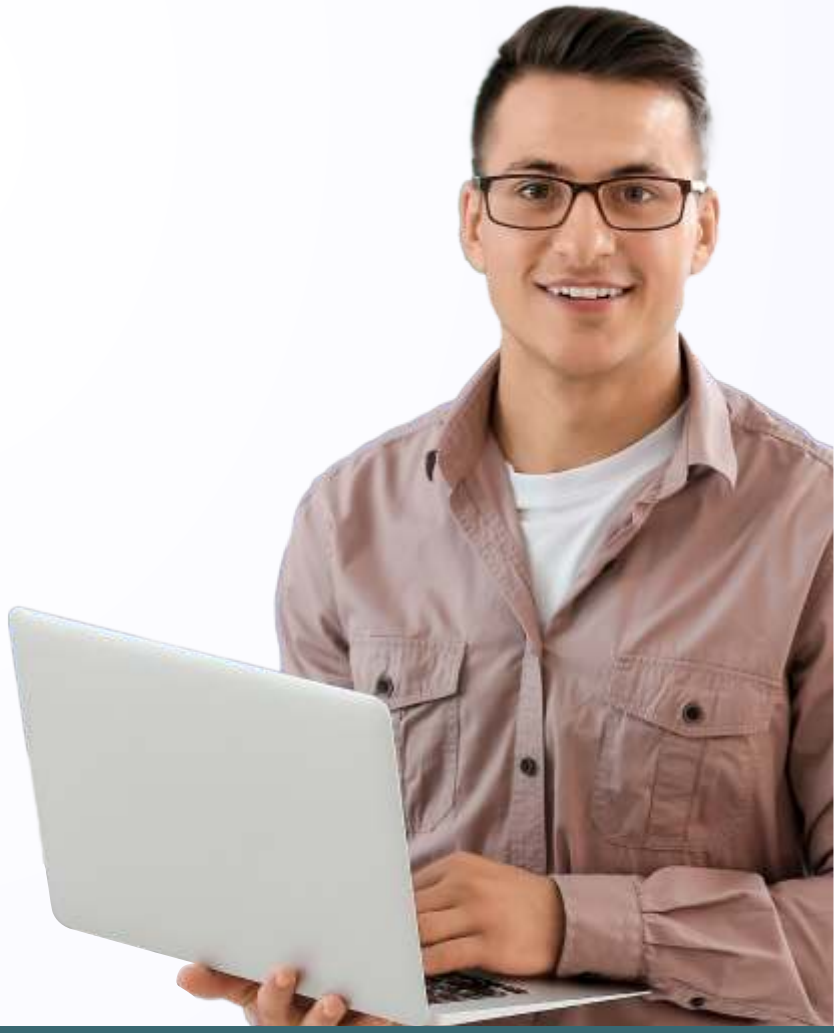
- Introduction
- Installation and setup
- Power BI fundamentals
- Getting data
- Editing data
- Visualizations
- Managing relationships
- Table and matrix visuals
- Slicers
- Editing interactions
- Calculated columns
- measures
- Advanced DAX
- Themes and pictures
- Styling
- Tree charts
- Creating workspace and publishing report
- Creating an app
- Automatic data refresh and subscription

8. MYSQL

- Schema Creation
- Data Definition
- Data Manipulation
- High Level Queries
- Joins

9. Advanced excel

- Introduction about Microsoft excel, google sheets, IBM's spread sheet
- Basic excel function
- High level data analysis functions
- Pivot table
- Data table
- Lookup commands
- Visualizations using charts and graphs
- Regression Analysis
- Anova analysis



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