

TechnoMaster

Data Science

Duration: 90 Hrs (Changeable) | Fees: Individual / Batch

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- Python Full Courses
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- Wordpress
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- React JS
- CCNA, MCSA
- AWS, GCP, Azure
- ODOO, Fortinet
- Ethical Hacking



Syllabus Contd..

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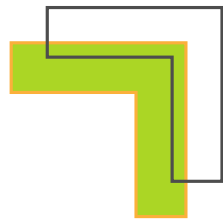
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MODULE 1

- * The Data Science Process
- * Apply the CRISP-DM process to business applications
- * Wrangle, explore, and analyze a dataset
- * Apply machine learning for prediction
- * Apply statistics for descriptive and inferential understanding
- * Draw conclusions that motivate others to act on your results

MODULE 2

- * Communicating with Stakeholders
- * Implement best practices in sharing your code and written summaries
- * Learn what makes a great data science blog
- * Learn how to create your ideas with the data science community

MODULE 3

- * Software Engineering Practices
- * Write clean, modular, and well-documented code
- * Refactor code for efficiency
- * Create unit tests to test programs
- * Write useful programs in multiple scripts
- * Track actions and results of processes with logging
- * Conduct and receive code reviews

MODULE 4

- * Object Oriented Programming
- * Understand when to use object oriented programming

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- * Build and use classes
- * Understand magic methods
- * Write programs that include multiple classes, and follow good code structure
- * Learn how to use large, modular Python packages, such as pandas and scikit-learn, use

- * Portfolio Exercise: Build your own Python package

MODULE 5

- * Web Development
- * Learn about the components of a web app
- * Build a web application that uses Flask, Plotly, and the Bootstrap framework

deploy it to a web application. Exercise: Build a data dashboard using a dataset of your choice and

MODULE 6

- * ETL Pipelines
- * Understand what ETL pipelines are
- * Access and combine data from CSV, JSON, logs, APIs, and databases
- * Standardize encodings and columns
- * Normalize data and create dummy variables
- * Handle outliers, missing values, and duplicated data

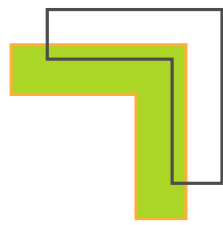
store cleaned data. Exercise: Engineer new features by running calculations on data. Build a SQLite database to

MODULE 7

- * Natural Language Processing
- * Prepare text data for analysis with tokenization, lemmatization, and removing stop words
- * Use scikit-learn to transform and vectorize text data

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tagging

- * Build features with bag of words and tf-idf
- * Extract features with tools such as named entity recognition and part of speech
- * Build an NLP model to perform sentiment analysis

MODULE 8

- * Machine Learning Pipelines
- * Understand the advantages of using machine learning pipelines to streamline the data preparation and model building process
- * Chain data transformations and an estimator with scikit-learn's Pipeline workflows
- * Use feature unions to perform steps in parallel and create more complex workflows
- * Grid search over pipeline to optimize parameters for entire workflow
- * Complete a case study to build a full machine learning pipeline that prepares data and creates a model for a dataset

MODULE 9

- * Experiment Design
- * Understand how to set up an experiment, and the ideas associated with experiments
- * Defining control and test conditions
- * Choosing control and testing groups

MODULE 10

- * Statistical Concerns of Experimentation
- * Applications of statistics in the real world
- * Establishing key metrics
- * SMART experiments: Specific, Measurable, Actionable, Realistic, Timely

MODULE 11

- * A/B Testing

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- * How it works and its limitations
- * Sources of Bias: Novelty and Recency Effects
- * Multiple Comparison Techniques (FDR, Bonferroni, Tukey)

results of an experiment. Exercise: Using a physical screener from Starbucks to analyze the

MODULE 12

- * Introduction to Recommendation Engines
- * Distinguish between based and techniques for filtering based recommendation engines
- * Implement each of these techniques in python.

recognize which distribution goals are associated with existing recommendation engines and the ability to

MODULE 13

- * Matrix Factorization for Recommendations
- * Understand the pros and cons of traditional regression and classification techniques.
- * Create recommendation engines using matrix factorization and FunkSVD

customer data * Interpret the results of matrix factorization to better understand latent features of
engine difficulties * Determine the main points of factoring the efficiency of the recommendation problem