THE StackLearn

Data Science

Develop your skills in data science and artificial intelligence by signing up for this course.

32 Weeks

10 Modules

24 Quizzes

Course Highlights

200 Hrs.
of Applied Learning

LinkedIn
Profile Review

Designed for
Working Professionals & Freshers

1:1
Mock Interview

50+
Industry Projects & Case Studies

100+
Live sessions

100%
Placement Assistance

24*7
Support

Who can apply for this course

- Graduates or postgraduate students in fields such as computer science, mathematics, statistics, engineering, or related disciplines.
- Professionals looking to transition or upskill in the field of Data Science, including those from technical backgrounds like software engineering or data analysis.
- Data analysts who want to expand their skill set and develop into more advanced techniques for data manipulation and analysis.
- Business professionals who want to understand and leverage the power of data to make data-driven decisions and drive business growth.
- Researchers or academics who wish to enhance their data analysis and machine learning capabilities in their research work.
- Anyone with a strong analytical mindset and a passion for working with data, regardless of their educational or professional background.

Where will your career Take off?

- Data Analyst
- Data Engineers
- Database Administrator
- Machine Learning Engineer
- Data Scientist
- Data Architect
- Statistician
- Business Analyst
- Data and Analytics Manager

Learning Outcome

- Gain knowledge about the landscape of different data generation sources.
- Acquire knowledge about the tools and techniques utilized in the field of analyzing both structured and unstructured data.
- Comprehend the disparities between descriptive analytics and predictive analytics.
- Conduct text mining to produce sentiment analysis of customers.
- Comprehend the data-driven machine learning methods for making crucial business decisions.
- Learn how to construct prediction models for everyday practicality.
- Understand how to perform forecasting to make proactive business decisions.
- Acquire knowledge about representing data in the most effective format using data visualization concepts.

Course Modules

Module - 1

SQL and Excel (Self Paced Learning)

- Intermediate level of excel
- Vlookup, Hlookup,Merge etc functions
- Pivot Tables and data analysis
- Introduction On Database
- Operations on Database using SQL
- Joins and Aggraration functions
- Data Time functions and Partitioning

Module - 2

Essential Engineering Skills in Big Data Analytics (using Python)

- Why python for machine learning and setup environment
- Data types and data structures
- Different libraries Pandas, NumPy, matplolib, seaborn,scikitlearn etc
- Analysis of data and data preprocessing steps using libraries
- Methods and classes creation
- Different techniques to do operation in large data sets (ex: apply functions, lambda, etc)
- Module Programming Test and 4 quizzes test
- Mock Interview only on python

Course Modules

Module - 3

Fundamentals of Probability and Statistical Methods

- Probability Theory, Conditional Properties, Bayes Theorem
- Central Imputation, Probability Distributions
- Normal Distribution and Sampling Distribution
- Hypothesis Testing
- Central Limit Theorem, Inferential Statistics: t,f,chi
- Anova, Introduction to Regression, Correlation, Covariance
- Discussion on real time problem statements and interview questions
- Module Test and 4 quizzes test
- Mock Interview on fundamentals of Probability and Statistical Methods

Module - 4

Machine learning Model Building Process

- Data understanding and data Preprocessing
- Feature extraction
- Feature selection (PCA, VIF, stepwise regression, IV, etc)
- Model building flows (train,test, validation techniques)
- Data selection for input (sampling techniques)
- Confusion matrix (kpis discussion) and ROC curve
- Discussion on interview questions
- Module Test and 2 quizzes test
- Mock Interview on Model Building Process

Course Modules

Module - 5

Azure Setup and Usage for ML Projects

- Understanding on Azure ML studio, compute instances, compute clusters
- Submission of Azure ML experiments
- Tracking jobs and updates code in git repository
- Deployment of models in Azure webapps and AKS clusters

Module - 6

Statistics and Probability in Decision Modeling

- Linear Regression (simple and multiple)
- Logistic Regression
- Time Series (Arima,Holtwinter)
- Lasso and Ridge regressions
- Discussion on real time problem statements and interview questions
- Module Model building Test (Code Submission), 2 quizzes
- Mock Interview on discussed Models

Module - 7

How to Pick your winning Horse(Model)

- Underfit vs overfit, Bias-Variance Tradeoff
- Cross validations and boot strapping
- Probability cut off for business on various scenarios

Module - 8

Methods and Algorithms in Machine Learning

- Decision Trees
- Clustering: Hclust,K-means
- Rule based knowledge, logic of rules, rule induction, association rules
- Support Vector Machines
- KNN+Collaborative filtering and Content based filtering
- Bagging, Stacking, Boosting
- Random forest
- XG Boosting
- Developing one real time use case
- Discussion on real time problem statements and interview questions
- Module Model building Test (Code Submission), 4 quizzes
- Mock Interview on discussed Models

Course Modules

Module - 9

Natural language Processing

- Introduction and Applications of NLP (Libraries: NLTK, Spacy,Gensim)
- Methods to Solve NLP Problems (Tokenization, POS, NER)
- Stemming, Lemmatization, Distance Methods, Spell correction
- TF-IDF, Bag of words, word2Vec (Embeddings)
- Text classification Model Building and sentiment Analysis on Reviews
- Discussion on real time problem statements and interview questions
- Module Model building Test (Code Submission), 4 quizzes
- Mock Interview on discussed Models

Module - 10

Advanced Machine Learning

- Neural networks (NN)
- Multi-layer perceptron neural network (MLP NN)
- Back propagation
- Convolutional neural networks (CNN)
- Recurrent neural network (RNN)
- Long short-term memory (LSTM)
- Discussion on real time problem statements and interview questions
- Module Model building Test (Code Submission), 4 quizzes
- Mock Interview on discussed Models

Tools Covered