

DATA SCIENCE

Course Curriculum

About the Program

Data science enables businesses to process huge amounts of structured and unstructured big data to detect patterns. This in turn allows companies to increase efficiencies, manage costs, identify new market opportunities, and boost their market advantage.

Asking a personal assistant like Alexa or Siri for a recommendation demands data science. So does operating a self-driving car, using a search engine that provides useful results, or talking to a chatbot for customer service.

Through this course you'll get exposure to key tools and technologies including Python, Tableau, and concepts of Machine Learning. Become an expert in Data Science by diving deep into the nuances of data interpretation, mastering technologies like Machine Learning, and mastering powerful programming skills to take your career in Data Science to the next level.

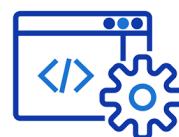
Key Features



Exclusive access to
LMS Portal



More than 48 hours
of training.



Covers 15+ tools for
skill-based learning



Recognized
Certificates on
completion



Hands on Project
Experience



Internship
opportunities

Job profiles and Salary

Data Analyst

Accenture	6.03 LPA
TCS	4.74 LPA
Amazon	6.77 LPA
Mynta	9.85 LPA
IBM	5.88 LPA

Data Scientist

Mu Sigma	6.69 LPA
IBM	11.59 LPA
TCS	8.15 LPA
Cognizant	7.26 LPA
Capgemini	9.29 LPA

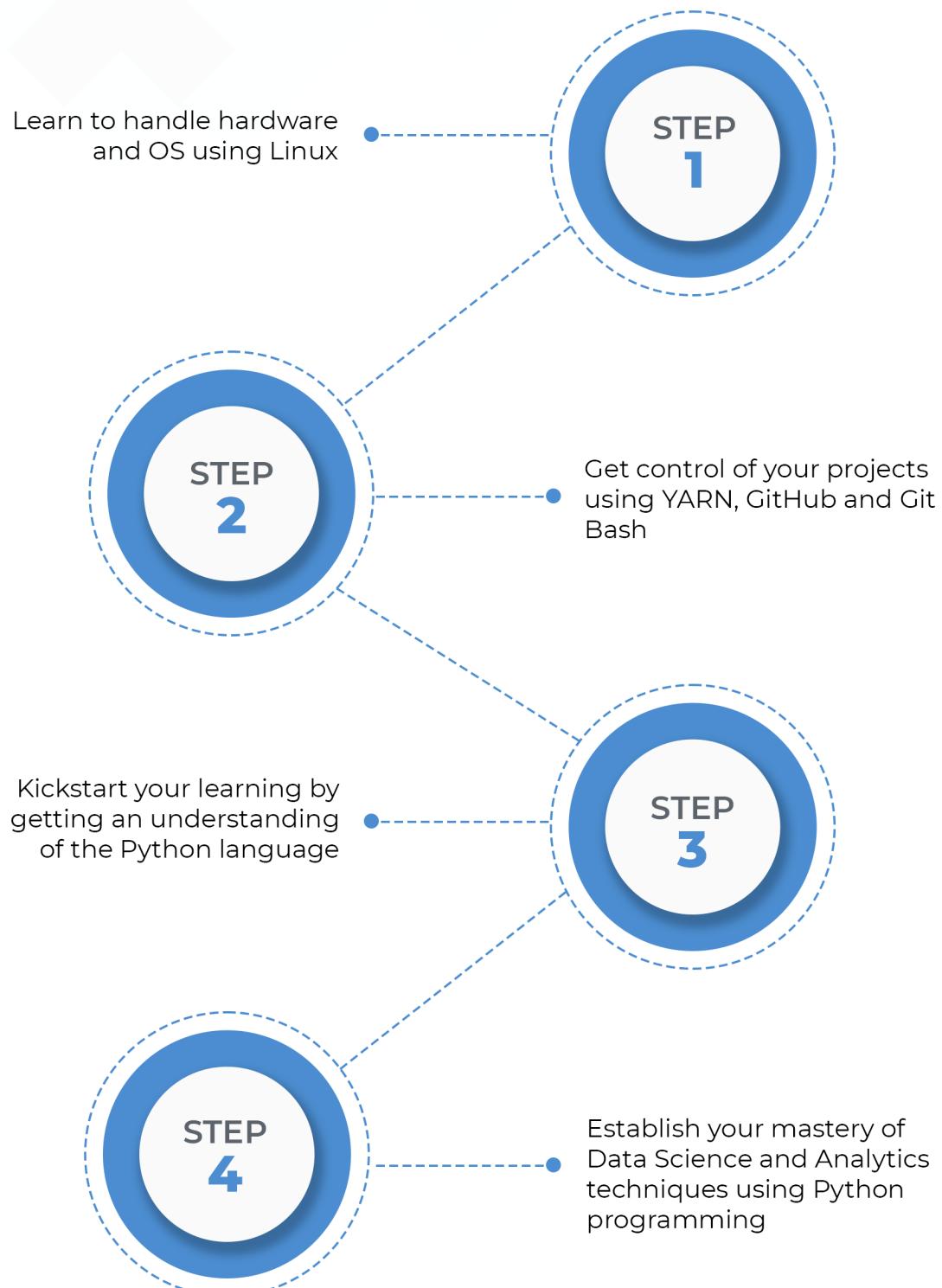
Business Intelligence Developer

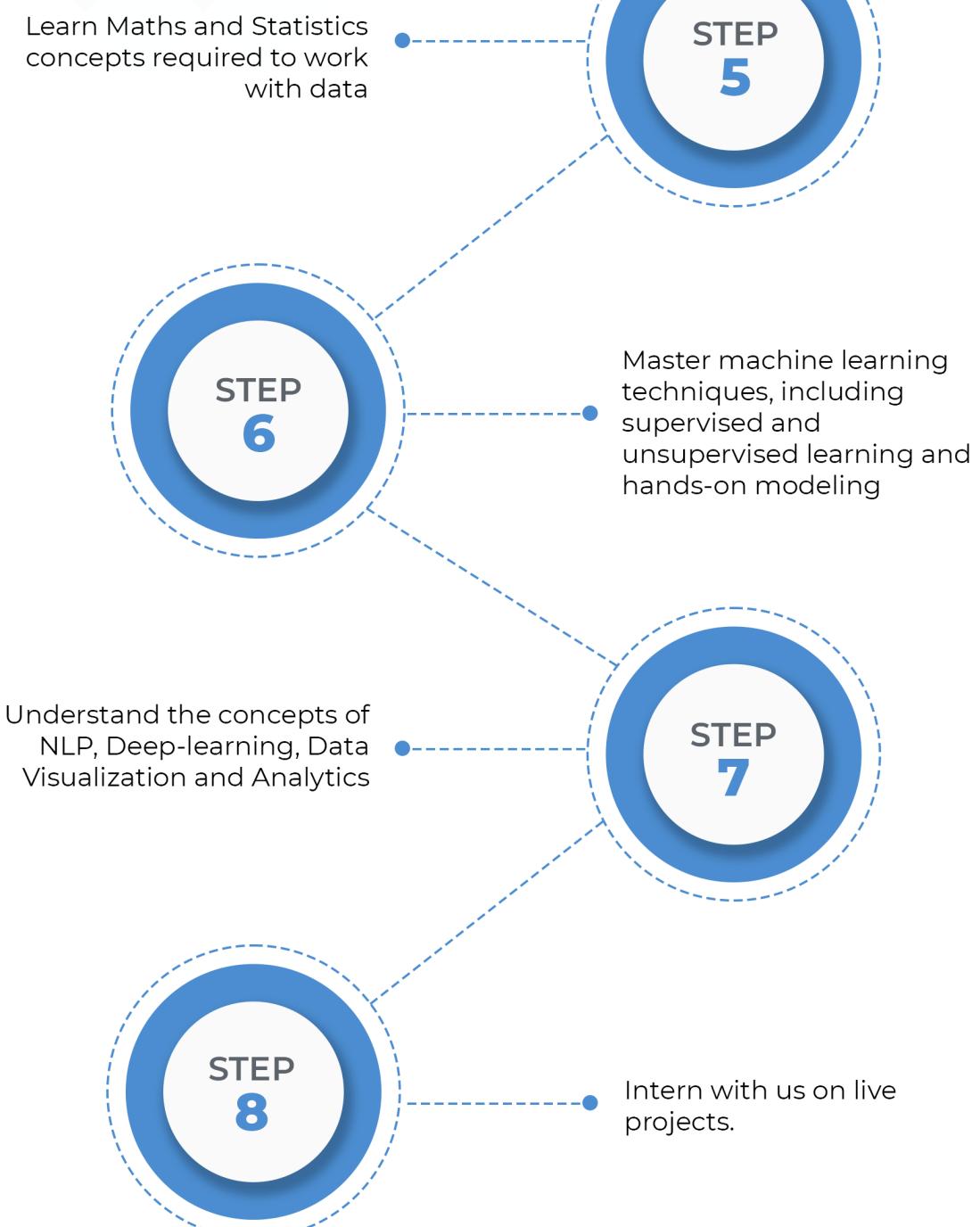
Cognizant	6.37 LPA
Accenture	10 LPA
Wipro	10 LPA
Oracle	10 LPA
Dell	9 LPA

Database administrator

Intel	15.73 LPA
Tech Mahindra	5.38 LPA
HCL	6.95 LPA
Cisco	12.74 LPA
Oracle	6.76 LPA

Upskilling Process





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Module 3 -Python for Data Science

- Python Refresher
- Python Basics
- Python Data Structures
- Python Programming Fundamentals
- File handling in Python
- Numpy
- Pandas
- SciPy
- Matplotlib
- Seaborn



Module 4 -Statistics

- Central tendency
- Variability
- Hypothesis testing
- Anova
- Correlation
- Regression
- Probability definitions and notation
- Joint probabilities
- The sum rule, conditional probability, and the product rule
- Bayes theorem

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Module 5 -Introduction to Machine Learning

- Supervised Learning
- Classification
- Regression
- Estimation
- Unsupervised Learning
- Clustering
- Prediction
- Reinforcement Learning
- Decision Making



Module 6 -ML Predictive Algorithms

- Linear Regression
- Logistic Regression
- Linear Discriminant Analysis
- Classification and Regression Trees
- Naive Bayes
- K-Nearest Neighbors (KNN)
- Learning Vector Quantization (LVQ)
- Support Vector Machines (SVM)
- Random Forest

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Module 7 -Data Science using PySpark

- Introduction to Big Data and Apache Spark
- Apache Spark framework and RDDs
- PySpark SQL and Data Frames
- Introduction to Hive



Module 8 -Data Visualization using Tableau

- Introduction to data visualization
- Architecture of Tableau
- Working with metadata and data blending
- Creation of sets
- Working with filters
- Organizing data and visual analytics
- Working with mapping
- Working with calculations and expressions
- Working with parameters
- Charts and graphs
- Dashboards and stories
- Tableau Prep
- Integration of Tableau with R

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Module 9 -Data Analysis using MSEExcel

- Entering data
- Referencing in formulas
- Name range
- Understanding logical functions & conditional formatting
- Important formulas in Excel
- Working with Dynamic table
- Data transformation for analysis
- Working with charts for data visualization
- Pivot tables in Excel
- Working with Macros in Excel and working with VBA



Module 10 - Data Wrangling using SQL

- Introduction to SQL
- Database normalization and entity-relationship model
- Creation of sets
- SQL operators
- Working with SQL: Join, tables, and variables
- Deep dive into SQL
- SQL Functions
- Working with Subqueries
- SQL views, functions, and stored procedures

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Module 11 - Deep Learning using TensorFlow

- Introduction to Deep Learning and Neural Networks
- Multi-layered Neural Networks
- Artificial Neural Networks and various methods
- Deep Learning libraries



Module 12 - Natural Language Processing

- Overview of Natural Language Processing and text mining
- Text mining, cleaning, and processing
- Text classification
- Sentence structure, sequence tagging, sequence tasks, and language modelling
- Introduction to semantics and vector space models
- Dialog systems



Module 13 - Data Science Project using Capstone

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Module 1 -Linux Operating System

- Installing Linux on VirtualBox
- Basic Linux Commands
- Security and Networking
- Using CLI
- Linux Editors
- Remote Controlling of a System
- Setting up and using YARN
- Advanced Linux Concepts



Module 2 -GIT

- Version Control
- Types of Version Control System
- Introduction to SVN
- Introduction to Git
- Git Lifecycle
- Common Git commands
- Working with branches in Git
- Merging branches
- Resolving merge conflicts
- Git workflow

Projects



Build Data Science Project
using Capstone



Daily Twitter Data Analysis
for a Product



Natural Language Processing



Warranty Cost prediction



Predict flight delays

Tools Used



Linux OS



Git Bash



GitHub



Python



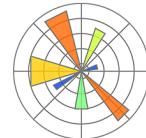
Numpy



Pandas



SciPy



Matplotlib



Seaborn



Tableau



MS Excel



YARN



PySpark



SQL



Tensorflow

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