NEXT COACH

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Comprehensive Introduction to Data Science Curriculum

FROM BEGINNER TO EXPERT

DURATION - 3 MONTHS

Data Science Curriculum

1 - Foundations of Data Science

- What is data science and why is it so important?
- Applications & of data science
- Various data science tools
- Data Science project methodology
- Case study

2 - Getting Started with Python

- Variables & Data Types
- Basic Operations
- Functions
- Data Structures & Error Handling
- Additional Python Concepts

3 - Python Programming: Intermediate & Advanced Level

- Object-Oriented Programming (OOP)
- Exception Handling
- Decorators and Context Managers
- Regular Expressions & Performance Optimization
- Functional Programming
- Advanced Modules and Libraries

4 - Advanced SQL

- SQL Data Types and Schemas
- Advanced SQL Functions
- Complex Data Manipulation
- Common Table Expression (CTE)

Data Science Curriculum

5 - Advanced Statistics and Probability

- Hypothesis Testing
- Statistical Modeling (ANOVA, Time Series Analysis)
- Bayesian Statistics
- Introduction to Probability Distributions

6 - Data Manipulation Using Pandas and Apache Spark

- Data Loading and Cleaning
- Data Exploration
- Data Transformation
- Data Aggregation and Grouping
- Time Series and Handling Dates

7 - Data Visualization Techniques

- Advanced Plot Customization
- 3D and Geospatial Visualization
- Interactive Visualization with Plotly
- Anation and Dynamic Visualization
- Advanced Plot Types

8 - Understanding Linear Regression

- Simple Linear Regression
- Multiple Linear Regression
- Model Evaluation and Validation
- Applications

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9 - Understanding Logistic Regression

- Introduction to Logistic Regression
- Logistic Regression Model
- Model Evaluation for Classification
- Applications

10 - Exploring Decision Trees

- Introduction to Decision Trees
- Decision Tree Construction
- Handling Categorical and Numerical Features.
- Decision Tree Visualization and Interpretability

11 - Introduction to Random Forests

- Introduction to Random Forest
- Random Forest Construction
- Feature Importance
- Advantages and Limitations

12 - Support Vector Machines (SVM)

- Introduction to Support Vector Machines.
- Linear SVM for Classification
- Kernel Methods
- SVM for Regression
- Support Vector Machine Applications

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13 - Principal Component Analysis (PCA)

- Introduction to PCA
- PCA Algorithm
- Visualization and Interpretation
- Image Compression

14 - Machine Learning Engineering

- Feature Engineering Techniques
- Model Selection and Cross-Validation
- Machine Learning Pipelines and Workflow Automation
- Cloud-Based Machine Learning (AWS SageMaker, Google Cloud AI Platform)
- Model Testing for Real World Applications

15 - Introduction to Neural Networks

- Neural Network Basics
- Neural Network Architectures.
- Model Training and Optimization
- Deep Learning Frameworks
- Neural Network Applications

16 - Exploring Recurrent Neural Networks (RNNs)

- Introduction to RNNs
- Long Short-Term Memory (LSTM) and Gated Recurrent Unit (GRU)
- Applications of RNNs
- Training and Optimization

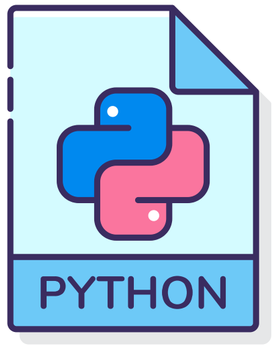
Deep Learning

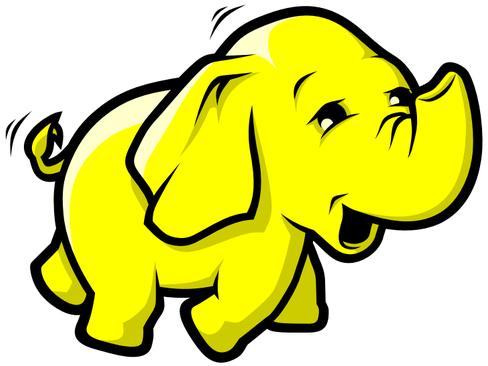
Natural Language Processing (NLP)

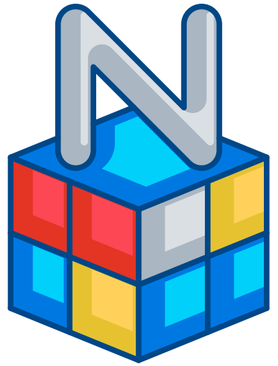
Project Presentation

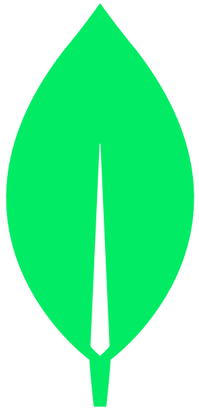
- Real-World Project Assignment: Credit Card Fraud Detection
- Project Planning & Datasets Description
- Implementation and Deployment
- Validate and refine models
- Project Presentation and Demo
- Certifications

Technologies to learn

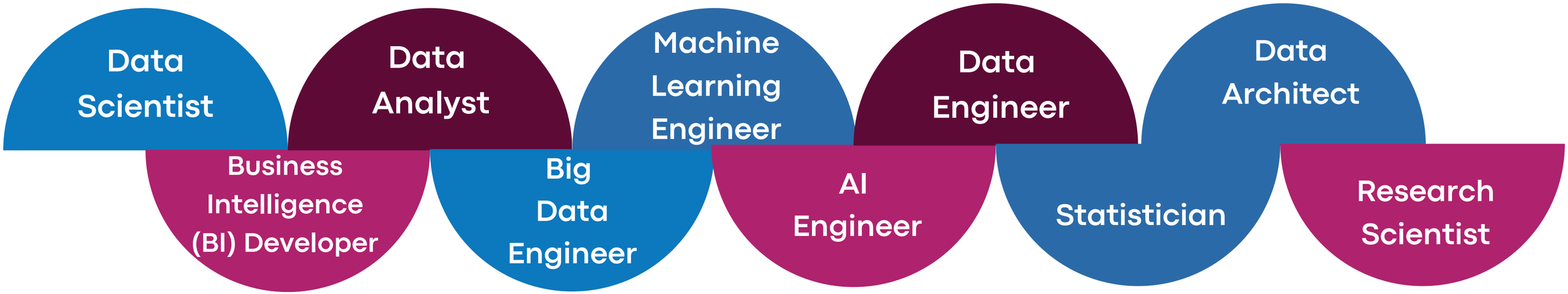








Job Roles that can be applied after completion of this course



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2. **Click "Enroll Now"**
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4. **Submit Your Application**
5. **Wait for our Response and Prepare for the Evaluation**
6. **Complete the Evaluation**
7. **Class Starts**

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Personalized Mentorship

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Get In Touch

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