

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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IBM DATA SCIENCE EXPERIENCE TRAINING

1: Introduction to Data Science

- What is Data Science?
- The Data Science Process
- Tools for Data Science
- Introduction to IBM Watson Studio

2: Data Science Tools and Ecosystem

- Jupyter Notebooks
- RStudio IDE
- GitHub
- Watson Studio
- Python/R/Scala fundamentals

3: Data Acquisition and Data Wrangling

- Data Collection Techniques
- APIs and Web Scraping
- Data Cleaning and Transformation
- Working with Structured and Unstructured Data

4: Data Analysis and Visualization

- Descriptive Statistics
- Data Visualization with Matplotlib, Seaborn, and Plotly
- Exploratory Data Analysis (EDA)
- Dashboarding with IBM Watson Studio

5: Applied Data Science

- Case Studies and Applications
- Real-world Data Science Problems
- Project Management for Data Science Projects
- Collaboration in Data Science Teams

6: Machine Learning with Python

- Introduction to Machine Learning
- Supervised Learning Algorithms (Regression, Classification)
- Unsupervised Learning Algorithms (Clustering, Dimensionality Reduction)
- Model Evaluation and Validation

7: Advanced Machine Learning and Deep Learning

- Ensemble Methods
- Time Series Analysis
- Neural Networks and Deep Learning
- Natural Language Processing (NLP)
- IBM Watson AI Services

8: Data Science at Scale

- Big Data Technologies (Hadoop, Spark)
- Working with Databases (SQL, NoSQL)
- Data Pipeline Management
- Cloud Computing for Data Science

9: Advanced Data Acquisition and Data Wrangling

- Advanced Web Scraping Techniques
- Working with APIs and Data Integration
- Handling Large Datasets with Spark and Dask
- Advanced Data Cleaning and Transformation Techniques
- Dealing with Missing Data and Outliers

10: Advanced Data Analysis and Visualization

- Advanced Statistical Methods
- Multivariate Analysis
- Geospatial Data Analysis
- Interactive Visualizations with Bokeh and Plotly Dash
- Custom Visualizations with D3.js

11 : Machine Learning at Scale

- Distributed Machine Learning with Spark MLlib
- Automated Machine Learning (AutoML)
- Hyperparameter Tuning and Optimization
- Model Deployment and Monitoring in Production
- Building Scalable Machine Learning Pipelines

12 : Deep Learning and Neural Networks

- Advanced Neural Network Architectures (RNNs, LSTMs, GANs)
- Convolutional Neural Networks (CNNs) for Image Processing
- Sequence Models and Time Series Analysis
- Transfer Learning and Pre-trained Models
- Deep Learning with TensorFlow and PyTorch

13 : Natural Language Processing (NLP)

- Advanced Text Preprocessing Techniques
- Word Embeddings (Word2Vec, GloVe, BERT)
- Text Classification and Sentiment Analysis
- Named Entity Recognition (NER) and Topic Modeling
- Building Chatbots with IBM Watson Assistant

14 : Advanced Big Data and Cloud Computing

- Advanced Hadoop Ecosystem (Hive, Pig, HBase)
- Cloud Data Warehousing (Snowflake, Big Query)
- Serverless Architectures and Lambda Functions
- Cloud-based Machine Learning (AWS Sage Maker, Azure ML, Google AI Platform)
- Data Lakes and Data Engineering with Delta Lake

15 : Specialized Machine Learning Topics

- Reinforcement Learning
- Anomaly Detection and Fraud Detection
- Recommender Systems
- Advanced Time Series Forecasting
- Computer Vision Techniques

16 : Ethics and Fairness in Data Science

- Fairness and Bias in Machine Learning
- Interpretability and Explainability of Models
- Ethical Data Collection and Privacy Considerations
- Building Trustworthy AI Systems
- Case Studies on Ethical Dilemmas in Data Science