

UNP Curated Courses: Instructor Lead Program



Session	Duration	Topic	Contents
1	6 Hr	Introduction & Fundamentals	<ol style="list-style-type: none"> 1. what is data science ? responsibilities of a data scientist. 2. Case studies: Success stories, failure stories 3. Formulate a business problem into a data problem 4. Fundamentals of Mathematics, Probability, Statistics, Computing 5. Leaders Talk
2	6 Hr	Tools	<ol style="list-style-type: none"> 1. Excel 2. Fundamentals of visualization 3. SQL 4. Python
3	6 Hr	Data Handling	<ol style="list-style-type: none"> 1. Outlier detection 2. Handling missing data 3. Data transformation 4. Basic data treatments 5. Feature engineering 6. Industry Connect 1
4	6 Hr	Machine Learning - 1	<ol style="list-style-type: none"> 1. What is machine learning, types of machine learning 2. Basic concepts in machine learning, e.g. Loss function, Gradient Descent, Types of errors 3. Supervised Learning Algorithms: Linear & Logistic Regression, Decision Trees, Random forest, Support Vector Machines 4. Industry Connect 2
5	6 Hr	Machine Learning - 2	<ol style="list-style-type: none"> 1. Supervised Learning Algorithms: Gradient Boosting Machines, Xgboost, Artificial Neural Network 2. Unsupervised learning - Clustering Techniques 3. Industry Connect 3
6	6 Hr	Machine Learning - 3	<ol style="list-style-type: none"> 1. Natural Language Processing : NLP and Intro to NLG & NLU and basics working principle of Chatbots 2. Introduction to Deep Neural Networks 3. RNN, LSTM, Auto-Encoders, Deep Learning
7	6 Hr	Machine Learning - 4	<ol style="list-style-type: none"> 1. Introduction to Biometrics 2. Image Detection & Face Recognition 3. Video Analytics 4. Industry Connect 4
8	6 Hr	Digital Footprint & Capstone Project	<ol style="list-style-type: none"> 1. GitHub repository / LinkedIn Profile / Stackoverflow Handling / Blogs / Kaggle / Hackerearth etc 2. Data Science Resume building / Approaching a Data Science Interview 3. Application driven Project & Final Presentation