

IIT Roorkee PGCP DSML - Batch 6						
Module	Module Name	Session Title	Date	Day	Time	Faculty
		Orientation Session	26-Mar-22	Saturday		
1	Foundations of DS	Foundations of DS and AI	02-Apr-22	Saturday	4:00 PM to 6:00 PM	Mohan S
2	Python for DS	Session 1 : Introduction to Python	09-Apr-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 2 : Data structures in Python - Lists, Tuples, Dictionaries and Sets	10-Apr-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 3 : Data structures continued - Tuples, Dictionaries and Sets	16-Apr-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 4 : Loops and control structures	17-Apr-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 5 : Functions	23-Apr-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 6 : Numpy	24-Apr-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 7 : Pandas	30-Apr-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		May Day	01-May-22	Sunday		
3	Statistical Thinking for DS	Session 8 : Matplotlib	07-May-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 1 : Basic Statistics & Fundamentals of Prob	08-May-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 2 : Inferential Statistics & Probability Distribution	14-May-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 3 : Hypothesis Testing	15-May-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
4	Exploratory Data Analysis and Data Visualization	Session 4 : ANOVA	21-May-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 1: Data Exploration	22-May-22	Sunday	4:00 PM to 6:00 PM	Jayesh
		Session 2: Data Exploration Case Study	28-May-22	Saturday	4:00 PM to 6:00 PM	Jayesh
		Session 3: Data Wrangling	29-May-22	Sunday	4:00 PM to 6:00 PM	Jayesh
		Session 4: Data Wrangling case study	04-Jun-22	Saturday	4:00 PM to 6:00 PM	Jayesh
		Session 5: SQL primer	05-Jun-22	Sunday	4:00 PM to 6:00 PM	Ragahvendra N
		Session 6: SQL primer	11-Jun-22	Saturday	4:00 PM to 6:00 PM	Ragahvendra N
		Session 7: Introduction to Visualization using Tableau	12-Jun-22	Sunday	4:00 PM to 6:00 PM	Jayesh
5	Essential Mathematics for DS and ML	Session 8: Intermediate and Advanced Visualization using Tableau	18-Jun-22	Saturday	4:00 PM to 6:00 PM	Jayesh
		Break	19-Jun-22			
		Session 1: Relevance of Linear Transformations and Eigenspaces in Machine Learning	25-Jun-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 2: Singular value Decomposition and Regularization of Linear Systems	26-Jun-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
6	Machine Learning Algorithms	Session 3: Principal Component Analysis and Discriminant Analysis	02-Jul-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 4: Gradient Calculus and Numerical Optimization	03-Jul-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 1 : Scikit-learn and machine learning	09-Jul-22	Saturday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 2 : Linear Regression	10-Jul-22	Sunday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 3 : Linear Regression	16-Jul-22	Saturday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 4 : Logistic Regression	17-Jul-22	Sunday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 5 : k Nearest Neighbors	23-Jul-22	Saturday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 6 : Decision Trees	24-Jul-22	Sunday	4:00 PM to 6:00 PM	Prof. Manu Gupta
7	Text Analytics	Session 7 : Support Vector Machines	30-Jul-22	Saturday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 8 : Clustering Techniques	31-Jul-22	Sunday	4:00 PM to 6:00 PM	Prof. Manu Gupta
		Session 1: Text Analytics Basics, Introduction and Overview	06-Aug-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 2: Word association Mining and Pre-processing	07-Aug-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 3: Feature Engineering for Text Representation	13-Aug-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 4: Text Classification and Summarization	14-Aug-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
8	Advanced Machine Learning Concepts	Session 5: Semantic and Sentiment Analysis	20-Aug-22	Saturday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 6: Document Classification, Summarization, Applications of Deep Learning	21-Aug-22	Sunday	4:00 PM to 6:00 PM	Prof. Sumit Kumar Yadav
		Session 1: Bias and Variance (overfitting/under fitting); Regularization; Hyper parameter tuning; etc	27-Aug-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Session 2: Statistical Machine Learning	28-Aug-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Session 3: Ensemble Learning	03-Sep-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Session 4: ML algorithms for Time-series data	04-Sep-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Break	10-Sep-22	Saturday		
		Break	11-Sep-22	Sunday		
	Hackathon 1	Competition	17-Sep-22	Saturday	4:00 PM to 6:00 PM	
	Hackathon 1	Competition	18-Sep-22	Sunday	4:00 PM to 6:00 PM	
	Industry Expert	Industry Expert Session 1	24-Sep-22	Saturday	4:00 PM to 6:00 PM	
9	Programming with TensorFlow	Session 1 : Introduction to TensorFlow	25-Sep-22	Sunday	4:00 PM to 6:00 PM	Ragahvendra N
		Session 2 : Graphs, Variables, Constants and Placeholders	01-Oct-22	Sunday	4:00 PM to 6:00 PM	Ragahvendra N
		Gandhi Jayanti	02-Oct-22	Sunday		
		Session 3 : Functions with TensorFlow	08-Oct-22	Saturday	4:00 PM to 6:00 PM	Ragahvendra N
		Session 4 : Math with TensorFlow, Optimizers	09-Oct-22	Sunday	4:00 PM to 6:00 PM	Ragahvendra N
		Session 5 : Tensorflow 2.0	15-Oct-22	Saturday	4:00 PM to 6:00 PM	Ragahvendra N
10	Neural Networks & Deep Learning	Session 6 : Capstone Projects Introduction	16-Oct-22	Sunday	4:00 PM to 6:00 PM	Jayesh
		Session 1 : Introduction to NN	22-Oct-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 2 : Introduction to NN	23-Oct-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 3 : Perceptron Basics and NN using NumPy	29-Oct-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 4 : Perceptron Basics and NN using TensorFlow	30-Oct-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 5 : Deep Neural Networks	05-Nov-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 6 : Deep Neural Networks	06-Nov-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Session 7 : Keras API	12-Nov-22	Saturday	4:00 PM to 6:00 PM	Prof. Millie Pant
	Industry Expert	Session 8 : Keras API	13-Nov-22	Sunday	4:00 PM to 6:00 PM	Prof. Millie Pant
		Industry Expert Session 2	19-Nov-22	Saturday	4:00 PM to 6:00 PM	
11	Specialization : Image Recognition	Computer vision with open CV	20-Nov-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Convolutional Neural Networks(CNN) -Architecture -Convolution layer -Pooling Layer	26-Nov-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		CNN For Image Recognition-1	27-Nov-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		CNN For Image Recognition-2	03-Dec-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		CNN For Image Recognition-3	04-Dec-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Pretrained CNN Models	10-Dec-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Image classification with KERAS -Binary classification -Multiclass classification	11-Dec-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Case Studies	17-Dec-22	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Real Time image classification - webcam	18-Dec-22	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Christmas Eve	24-Dec-22			
		Christmas	25-Dec-22			
		New Year Eve	31-Dec-22			
		New Year	01-Jan-23			

		Object Detection	07-Jan-23	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		Real Time Object Detection	08-Jan-23	Sunday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
		GANs and Reinforcement Learning	14-Jan-23	Saturday	4:00 PM to 6:00 PM	Prof. Alok Bhardwaj
11	Specialization : Speech Recognition	What is Speech recognition?	20-Nov-22	Sunday	6.30 pm to 8.30 pm	R Chandrashekar
		Convolutional Neural Networks(CNN) -Architecture -Convolution layer -Pooling Layer	26-Nov-22	Saturday	6.30 pm to 8.30 pm	R Chandrashekar
		CNN For Image Recognition-1	27-Nov-22	Sunday	6.30 pm to 8.30 pm	R Chandrashekar
		Basic Speech recognition API's	03-Dec-22	Saturday	6.30 pm to 8.30 pm	Prof. Sumit Kumar Yadav
		Advanced NLP - using Word Embeddings Word2Vec, GLOVE	04-Dec-22	Sunday	6.30 pm to 8.30 pm	Prof. Sumit Kumar Yadav
		Sequence models to audio applications	10-Dec-22	Saturday	6.30 pm to 8.30 pm	Prof. Sumit Kumar Yadav
		Introduction to Recurrent Neural Networks - RNN RNN & Variants : -LSTM -GRU	11-Dec-22	Sunday	6.30 pm to 8.30 pm	Prof. Sumit Kumar Yadav
		Application of RNN for Sequence modeling Time series Forecasting with RNN	17-Dec-22	Saturday	6.30 pm to 8.30 pm	Prof. Sumit Kumar Yadav
		case studies	18-Dec-22	Sunday	6.30 pm to 8.30 pm	R Chandrashekar
		Chatbot Architecture	07-Jan-23	Saturday	6.30 pm to 8.30 pm	R Chandrashekar
		Building a chatbot with Dialogflow	08-Jan-23	Sunday	6.30 pm to 8.30 pm	R Chandrashekar
		GANs and Reinforcement Learning	14-Jan-23	Saturday	6.30 pm to 8.30 pm	Prof. Alok Bhardwaj
		Session1 : Introduction to Big Data	20-Nov-22	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
11	Specialization : Data Engineering	Session2 : Understanding HDFS Architecture	26-Nov-22	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session3 : Understanding Map Reduce and YARN	27-Nov-22	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session4 : Recap of SQL Concepts	03-Dec-22	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session5 : Data Analysis using Hive	04-Dec-22	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session6 : Data Analysis using Hive	10-Dec-22	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session7 : Importing SQL data into Hive	11-Dec-22	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session8 : No SQL databases on Hadoop	17-Dec-22	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session9 : Understanding Spark RDD's	18-Dec-22	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session10 : Data Analysis using Spark	07-Jan-23	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session11 : Spark SQL	08-Jan-23	Sunday	6.30 pm to 8.30 pm	Shivank Agrawal
		Session12 : Spark Case Study	14-Jan-23	Saturday	6.30 pm to 8.30 pm	Shivank Agrawal
12	Campus Immersion	Hackathon 2	13-Feb-23	Monday		
		Hackathon 2	14-Feb-23	Tuesday		
		Day 3	15-Feb-23	Wednesday		
		Day 4	16-Feb-23	Thursday		
		Day 5	17-Feb-23	Friday		
	Capstone Submission		25-Mar-23	Saturday		