



Electronics & ICT Academy

(Under Ministry of Electronics and Information Technology, Government of India)
Indian Institute of Technology Guwahati, Guwahati, Assam, Pin 781039

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Date	Time	Topic
Day 1	09:00am-9:45am	Registration & Reporting
	09:45am-10:15am	Inauguration
	10:15am-10:30am	Tea Break
	10:30am-01:00pm	Introduction to Python and Python Programming <ul style="list-style-type: none"> ▪ Python Environment Set up ▪ Instructions for Installing Anaconda and Managing Environment ▪ Introduction to Python programming Platform ▪ Python Data Types, Control Statements, Loops, Functions
	01:00pm-02:00pm	Lunch
	02:00pm-03:45pm	Data Analytics <ul style="list-style-type: none"> ▪ Introduction to python packages ▪ Working with Numpy, Pandas, Matplotlib, Seaborn ▪ Working with Data, Data Preprocessing and Visualization
	03:45pm-04:00pm	Tea Break
	04:00pm-05:30pm	Machine Learning <ul style="list-style-type: none"> ▪ Introduction to Machine Learning ▪ Categories of Machine Learning ▪ Working with Scikit – Learn(Hands-on)
Day 2	09:30am-11:30am	<ul style="list-style-type: none"> ▪ Supervised learning methods <ul style="list-style-type: none"> ○ Regression - Linear regression and its types ○ Working with Dataset – Application (Hands – on)
	11:30am-11:45am	Tea Break
	11:45am-01:00pm	<ul style="list-style-type: none"> ▪ Robust Regression ▪ Working with Dataset – Application (Hands – on)
	01:00pm-02:00pm	Lunch Break
	02:00pm-03:45pm	<ul style="list-style-type: none"> ▪ Logistic regression ▪ Gradient descent algorithm ▪ Practical Application (Hands – on)
	03:45pm-04:00pm	Tea Break
	04:00pm-05:30pm	Session Continue (Hands – on)
Day 3	09:30am-11:30am	Machine Learning <ul style="list-style-type: none"> ▪ Unsupervised learning methods <ul style="list-style-type: none"> ○ Support vector machines ○ Training a Decision Tree ○ kNN ○ Clustering Concepts, k-Means Clustering
	11:30am-11:45am	Tea Break
	11:45am-01:00pm	Session Continue (Hands- On)
	01:00pm-02:00pm	Lunch
	02:00pm-03:45pm	Session Continue(Hands-On)
	03:45pm-04:00pm	Tea Break
	04:00pm-05:30pm	Session Continue(Hands-On)



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Day 4	09:30am-11:30am	Deep Learning <ul style="list-style-type: none"> ▪ Artificial Neural Networks <ul style="list-style-type: none"> ○ ML vs DL ○ Introduction to Neural Networks ○ Deep Neural Network – Classification ○ Applications ▪ Deep Neural Network Implementation (Hands- On)
	11:30am-11:45am	Tea Break
	11:45am-01:00pm	Session Continue(Hands- On)
	01:00pm-02:00pm	Lunch
	02:00pm-03:45pm	Session Continue(Hands- On)
	03:45pm-04:00pm	Tea Break
	04:00pm-05:30pm	<ul style="list-style-type: none"> ▪ Conventional Neural Network <ul style="list-style-type: none"> ○ Implementation (Hands- On)
Day 5	09:30am-11:30am	<ul style="list-style-type: none"> ▪ Recurrent Neural Network <ul style="list-style-type: none"> ○ Simple Recurrent Unit ○ Advanced Recurrent Unit ○ Implementation (Hands- On)
	11:30am-11:45am	Tea Break
	11:45am-01:00pm	<ul style="list-style-type: none"> ▪ Natural Language Processing <ul style="list-style-type: none"> ○ Using Neural Networks to solve NLP problems ○ Classic application of NLP (Hands- On) ○ Demo: NVIDIA Jetson Board
	01:00pm-02:00pm	Lunch
	02:00pm-03:45pm	Case Study Project Assignment
	03:45pm-04:00pm	Tea break
	04:00pm-05:00pm	Case Study Project Assignment
	05:00pm onwards	Valedictory Session