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(UGC AUTONOMOUS)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Centre for signal and image processing (CSIP)

One Week Student Development Program (SDP) on "Manufacturing of Machine Learning Engineers (MLE) – by Programming Intelligence"

Course Instructor: Dr.P.Venkatakrishnan Online link: meet.google.com/pwu-yjug-njs

S.No	Topics Date & Time	Concept Discussions	Deliverables
1	IT Firm to AI Company 20.07.2020 Time: 10.30-11.45AM & 2.30 – 3.45PM	Present urge of All the Software Company into AI Based Company (What is Machine Learning) (Examples of L&T , HCL and TCS InfoTech) and their Future scope	Necessary Needs for AI Company and its requirements in Agriculture to IT Sector Industry
2	Regression Concepts 21.07.2020 Time: 10.30-11.45AM & 2.30 – 3.45PM	Types of Regression (Linear and Non-Linear) and its applications $y = mx + c$	Interpretation of Linear line in rectangular coordinates for basic classification
3	Linear, Quadratic and Cubic Polynomials 22.07.2020 Time: 10.30-11.45AM & 2.30 – 3.45PM	Application of the Higher Order Polynomials into Learning algorithms in the form of easier understanding by machines	Simple Regression with higher order polynomials and its differences in data samples through MATLAB
4	Training and Testing 23.07.2020 Time: 10.30-11.45AM & 2.30 – 3.45PM	The importance of learning the data samples either *supervised* or *unsupervised* learning concepts	Training our algorithm into Machine understandable perspective
5	Cross validation 24.07.2020 Time: 10.30-11.45AM & 2.30 – 3.45PM	Types of Cross Validation (CV) and its importance in our constructed learning algorithms	Validation (Scoring) of our findings related to data samples with streamlined procedures

Expected Outcome: **End of the Student Development Program, we should ensure that 85% of the participants can imbibe the concepts mathematically and could implement into their mini and major project work in the field machine learning domain . Especially the following outcomes are derived from this two weeks course:**

- **Clear understanding of theory and practical concepts about each topic**
- **Matrix manipulation of samples, vectors or higher order samples**
- **Regression of data samples about its mean and variance**
- **Influence of type of Regression in the construction of classification**
- **Handle the each topic is how to implement in all Deep Learning (DL), Data Science (DS), and Machine Learning (ML) Applications**

CSIP Head	HOD	Director
(Mr. Sai Kumar Tara)	(Prof. G. Srikanth)	(Dr.A.Raji Reddy)