

**NAME OF EVENT:**TEQIP III Sponsored Short Term Course on Machine Learning for Engineering Applications

**DATE OF EVENT:**9<sup>th</sup> to 13<sup>th</sup> December,2019

**VENUE OF EVENT:**Indian Institute Of Technology Delhi, Hauz Khas, Delhi - 110016

**COURSE CONTENT-** The main aim of the course is to introduce the relevance of machine learning in a wide range of academic and industrial problems relevant to various engineering disciplines. Moreover, to study basics of widely used algorithms for linear and non-linear regressions such as elastic net, principal component regression, support vector machine, and neural networks etc. This has been achieved through various expert lectures, short projects (both individual and group) and some hands-on sessions through various software packages mainly python and anaconda software.

**Content discussed:**

- Data Analysis
- Probability Distributions – Discrete and Continuous
- Estimation and Hypothesis Testing
- Linear Regression and its Derivatives – Partial Least Squares, Principal Component Analysis, Lasso, Ridge and Elastic Net
- Estimation and Inference
- Non-Linear Regression: Support Vector Machine, Neural Networks, Gaussian Process Modelling
- Classification and Clustering; Engineering Applications and Hands-on sessions

**PROJECT TOPIC:** Wisconsin Prognostic Breast Cancer (WPBC). The data set had been provided and result calculated based upon different methodology using python software.

**Group Members:**

Er. Arshdeep Kaur (A.P.EE)

Er. Gagandeep Kaur Gill (A.P.EE)

Er. Sonia Grover (A.P.EE)