## Artificial Intelligence and Machine Learning

Project Report

Semester-IV (Batch-2022)

**Case Study**: - SVM using cell samples dataset

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**Description about Case Study: -**

* Introduction to SVM
* Load data from csv file
* Description of the classes
* Selection of unwanted columns
* Remove unwanted columns
* Divide the data as train or test datset
* Modeling
* Evaluation

**Library: -**

* Pandas
* Numpy
* Matplotlib.pyplot
* Sk.learn

**Methods: -**

1. **read\_csv():**

Description: Reads a CSV file and converts it into a data frame.

1. **tail():**

Description: Used to print last 10 rows of dataset.

1. **count()**:

Description:  counts the number of cells that contain numbers, and counts numbers within the list of arguments.

1. **Value\_counts():**

Description: returns a Series that contain counts of unique values.

1. **dtypes:**

Description: describes how the bytes in the fixed-size block of memory corresponding to an array item should be interpreted**.**

1. **drop():**

Description: removes the definition of an existing function.

1. **asarray():**

Description: to create an array by using the existing data in the form of lists, or tuples.

**8. astype() :** used to cast a pandas object to a specified dtype.

**9. train\_test\_split():**shuffles the dataset and then splits it.

**10. SVC() :** SVC is a specific implementation of the Support Vector Machine algorithm that is designed specifically for classification tasks.

**11.** **fit() :** used to train a machine learning model on a dataset**.**

**12. predict():** forecast future requirements or run a what-if analysis.