

# School of Computer Science Engineering and Technology

Course- BTech  
Course Code- 301  
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Type- Core  
Course Name-AIML  
Semester- Even  
Batch- 4<sup>th</sup> Sem (SPL)

## 10 - Lab Assignment No. 10.2

**Objective:** To Implement Support Vector Regression

**Problem Statement:** Build a SVR model for the prediction of Salary based on the year of experience

**About Dataset:** This data shows the change in salary based on years of experience and the age of the person. Use this dataset to create machine learning models for prediction of salaries of people based on their age and years of experience. (5)

### Steps

1. **Dataset:** Download the dataset from the link (5)  
<https://www.kaggle.com/datasets/rohankayan/years-of-experience-and-salary-dataset>
2. Read the dataset (5)
3. Check the shape of the dataset (5)
4. Print the first 5 rows of the dataset (5)
5. Check the presence of missing values. Handle it if present (5)
6. Extract the Independent and Dependent Variable (5)
7. Split the dataset into 80% for training and rest 20% for testing (sklearn.model\_selection.train\_test\_split function) (10)
8. Build a SVR model using Sklearn with default parameters. (10)
9. Predict the target values in the testing set. (10)
10. Apply regression metrics (10)
11. Playing with SVR: Change the parameters of the SVR and analyze their performance for training and testing using the evaluation measures.(10)
12. Visualising the Training set results by plotting regression line (10)
13. Visualising the Test set results by plotting regression line (10)
14. Compare the performance of the SVR model with other regression models. (10)

**Suggested Platform:** Python: Azure Notebook/Google Colab Notebook, packages such as numpy, pandas, sklearn, matplotlib.