**Laboratory Practical File**

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# Fundamentals of Machine Learning [CSE313]

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# Semester-5

# Department of Artificial Intelligence

#### Amity School of Engineering and Technology

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S. No. | Category of Assignment | Code | Exp.  No. | Name of Experiment | Date of Allotment of experiment | Date of Evaluation | Max.  Marks | Marks obtained | Signature of Faculty |
| 1. | **Mandatory Experiment\*** | **LR (10)** | **1** | Perform basic operation on matrices (addition, subtraction, multiplication) and display specific rows and columns of a matrix. | 20-07-22 | 03-08-22 |  |  |  |
| 2. | **Mandatory Experiment\*** | **2** | Perform other matrix operations like converting a matrix's data to absolute values, taking the negative of matrix's values, adding/removing rows/columns, finding maximum and minimum values of a matrix in a row/column, finding the sum of all the elements in a matrix, and concatenating two matrices. | 03-08-22 | 10-08-22 |  |  |  |
| 3. | **Mandatory Experiment\*** | **3** | Create various types of plots/charts like histograms, pie chart, scatter plot, plot based on sine/cosine function(s) based on data from a matrix. Further, label different axes in a plot and data in a plot. | 10-08-22 | 17-08-22 |  |  |  |
| 4. | **Mandatory Experiment\*** | **4** | To implement linear regression model on housing data. | 17-08-22 | 24-08-22 |  |  |  |
| 5. | **Mandatory Experiment\*** | **5** | Implementation of Multiple Regression on Housing Dataset. | 24-08-22 | 14-09-22 |  |  |  |
| 6. | **Mandatory Experiment\*** | **6** | Implement classification based on logistic regression. | 14-09-22 | 21-09-22 |  |  |  |
| 7 | **Mandatory Experiment\*** | **7** | To implement backpropagation on a dataset. | 21-09-22 | 19-10-22 |  |  |  |
| 8. | **Mandatory Experiment\*** | **8** | Implement and evaluate a dataset using SVM based classification algorithm. | 19-10-22 | 02-11-22 |  |  |  |
| 9. | **Mandatory Experiment\*** | **9** | Take a classification dataset from Kaggle and classify the data into output classes. Also evaluate the classifier efficiency using various evaluation measures. | 19-10-22 | 02-11-22 |  |  |  |
| 10. | **Mandatory Experiment\*** | **10** | Implement and classify balanced/ unbalanced dataset using neural networks. | 02-11-22 | 09-11-22 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| 11. | **Design Based Open Ended experiment\*\*** | **PR (10)** |  | To implement neural network and train it over a dataset. |  |  |  |  |  |
| 12. | **Viva** | **Viva (5)** |  |  |  |  |  |  |  |