LABORATORY HANDOUT

ARTIFICIAL INTELLIGENCE WITH COMPUTER VISION (COM-611)

CSE-6TH SEMESTER

ACADEMIC YEAR (2023-24)

Sukhmeet Kour

Assistant Professor

Department of Computer Science & Engineering

Department of Computer Science & Engineering

Model Institute of Engineering & Technology (Autonomous)

Kot Bhalwal, Jammu - 181122

www.mietjmu.in

Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
COM-611	Artificial Intelligence and Machine Learning Lab	PCC	2	0	0	4	50	0	50

COURSE OUTCOMES

At the end of the course the student will be able to:	
CO1	Design and implement intelligent solutions to classification, regression and clustering problems using Python.
CO2	Design and implement distinguishing features in pattern and Image Processing tasks.
CO3	Illustrate and apply clustering algorithms and identify its applicability in real life problems.
CO4	Apply learning approaches and acquire skills to design, analyze and develop algorithms and implement them using high level programming languages
CO5	Design and implement solutions to classification problems using CNN.

LIST OF EXPERIMENTS

S.No.	Title
1	Implement and demonstrate the Data Processing for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file.
2	For a given set of training data examples stored in a .CSV file, implement and demonstrate the Data Visualization to output a description of the set of all hypotheses consistent with the training examples.
3	Assuming a set of data that need to be specifically used in the dataset applies the Data Wrangling by reading the training data from a .csv file.
4	Implement the data Processing, Data visualization and Data wrangling on any real-world problem i.e., Covid _19 dataset to view the active cases on the world Map using Chloropleth and Also Plot the cases.
5	Implement the Linear regression on the salary Prediction based on a given set of training data samples. Read the training data from a .CSV file.
6	Implement the KNN IRIS Image Classification based on a given set of training data samples. Read the training data from a .CSV file.
7	Implement the web scraping on Amazon website or any shopping site by importing the requests and the Beautiful Soup.
8	Implement the Image processing basics: Converting Image to RGB to BGR and to Grayscale, create a White / Black Color Image, how to draw shapes on image.
9	Implement the detection of Eye or face or Smile from the Image.
10	Apply the sentimental Analysis using Natural language Processing on Live Twitter data.

ADDITIONAL WEB RESOURCES

1.	
2.	
3.	
4.	

LAB REPORT INSTRUCTIONS

- Provide specific title of the lab experiment.

- Theory: Provide a concise abstract (typically 100-200 words) that summarizes the purpose, methods, key findings, and significance of the experiment.

- Materials/ Equipment: List all materials, components, and equipment used in the experiment. Include specifications when applicable.

- Software/Simulation Tools:

- Experimental Procedure: Describe the step-by-step procedure for conducting the experiment. Be detailed and clear in your instructions. Include diagrams or schematics to illustrate the setup, connections, and component placement. Explain any variations or adjustments made to the standard procedure.

- Observation & Calculations/Analysis: Detail the data you collected during the experiment. Include descriptions of measurements and any calculations made. Use tables, charts, or graphs to present data clearly. Discuss any trends, patterns, or significant observations. Interpret the data in the context of the experiment's objectives. Ensure that all figures, tables, and equations are correctly labeled.

- Results: Summarize the key findings of the experiment. Present results in a clear and organized manner using tables and graphs. Include units of measurement and labels for data points.

- Conclusion: Provide a concise summary of the experiment's key points and outcomes.

GRADING AND ASSESSMENT

- **Continuous Evaluation**: 30 marks
- **Final Demo & Viva**: 10 marks
- **Attendance**: 10 marks
- **Lab Overall Marks**: 50 marks

COURSE POLICIES

- **Attendance**: Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Late Submissions**: Manuals and projects must be submitted by the specified timelines.

FACULTY INFORMATION

- **Office Hours**

  Monday (12:55 PM - 02:35 PM)

Friday (02:35 PM – 04:00 PM)

- **Contact Information**
  sukhmeet.cse@mietjammu.in

RUBRICS FOR LAB CONTINUOUS EVALUATION

Parameters	Performance			
	Low	**Medium**	**High**	**Marks**
Execution of the Experiment	Student was not able to setup and conduct the Experiment completely	Student was able to setup and conduct the experiment but measurement/results/observations were not correct	Students was able to set and conduct the experiment and the measurement/results/observations were not correct	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Record	Student was not able to describe the detailed procedure and could not record the measurement.	Student was able to describe the detailed procedure partially or with some inaccuracy.	Student was able to describe the detailed procedure accurately and record all measurements correctly.	10
	0-2 Marks	3-6 Marks	7-10 Marks	
Viva Voice	Students could not demonstrate sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrated sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrate strong knowledge of foundation, functional or applied aspects related to the experiment during viva	10
	0-2 Marks	**3-6 Marks**	**7-10 Marks**	
Total Marks				**30**

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Dr. Arun K. Gupta Teaching-Learning Centre —————————————— Version 1.1

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