SOT 23 - AIML Project 1 - Classification

1	**Project Title**	*Election Voting Prediction*
2	**Batch & Subject**	*SOT23B1 - JS Master Class*
3	**Problem Statement**	Your are hired by one of the leading news channels CNBE. This survey was conducted on 1525 voters with 9 variables. You have to build ML models to protect which party a voter will vote for on the basis of the given information. This information will be used to create an exit Pol that will help in predicting overall win in seats covered by a particular party. The data set of the problem is here - Election_Data_Set: Please make a note that the above file consists of 2 tabs - The data and Data Dictionary. You only need to ingest the data tab. It can be done by copying the data into another file and then importing that file in Jupyter Notebook.
4	**Project Objectives**	To build productive machine learning models. Analyse the model performance using model evaluation criterias. After this the best performing model must be selected.
5	**Project Scope**	Data injestion: Read the data set. Do the descriptive statistics and do the null value condition check. Write an inference on it Perform univariate and bivariate analysis. Do the entire exploratory Data Analytics. Check for and treat outliers Data preparation: Input the data for modelling. Do feature engineering if necessary. Delete the duplicate rows or unnecessary columns as per your analysis and judgement. Split the data into train and test. Modelling: Apply all the classification machine learning models taught in the course. Evaluate all the models on the model evaluation criteria discussed. Compare the models and select the model which is the best performing model. Write inferences regarding which model is most optimised and why Write your insights based on these predictions.
6	**Technical Requirements**	Languages: Python (Recent Uodated Version) Tools: VS Code / Google Colab / Jupyter Notebook. Python Libraries

7	**Project Guidelines**	1) Provide a Business Report : Objective of a Business Report is to provide a logical guidance to the solution for the current business problem. Both subject matter expert and business stakeholder must be able to walk through your thought process in detail and evaluate you on the basisof your project structure and clarity. 2)Business Report is focused on process and insights. It must not include any code. You will be submitting Jupyter Notebook for codes 3)Structure your report. Use sections and subsections for better readability. Click Here for a Sample Project Report 4)Study the data well before you dive in analysis. Provide a description of the data –context and variables. a)Wherever possible, add remarks about the wider context of the project, the problem that has been identified, affected stakeholders within the problem and constraints about the approach you are going to take. b)Wherever possible, provide an explanation about the important and unusual variables present in your data. 5)Provide rationale/logic behind your choice of algorithms and data processing/modeling steps. a)Insights from EDA must provide indication towards further data processing and modelling steps 6)Mention the source of every picture/text taken from the internet. 7)All the tables and diagrams in the Report must be clearly readable. a)Annotate your diagram/charts with labels and legends. Make them clearly visible (use bigger fonts and darker colour). b)In the Report, present only the important charts/diagrams whichhelp you in your analysis, not every set of pictorial representation that is possible within the dataset. You may refer them on the Jupyter Notebook 8)Reframe your jargons appropriately. Elaborate it for the sake of understanding. 9)Back your claims, statements and conclusions with numerical or visual data summary. Refrain from making statements without evidence/facts/data. Critically evaluate your results in the context of your problem statement. 10)Proof-read your work and correct your errors before making the final submission. Penalty will be associated with incorrect English, labelling, structural inconsistencies etc. 11) You Will be asked to explain your project - Incase it is found plaugarised or copied from a colleague severe penalties on both students will be levied without any further considerations.
8	**Deliverables**	Complete VS Code/ Jupyter Notebook File. Sample Jupyter Notebook Project Report in the pdf format. Refer the Sample report above.
9	**Evaluation Criteria**	Data injestion: (10%) Data preparation: (20%) Modelling: (50%) Write your insights based on these predictions.(20%)
10	**Submission Deadlines**	5th March