CS 200: Introduction to Machine Learning Name:_____

Semester Project Rubric

Your project will be graded as follows, out of a total of 60 possible points. Each section is broken down into tasks, with 2-4 items per task. Deadlines for most of these tasks are in the project overview.

The workflow (or workflow plan) referenced below is the slide deck template you have copied from Moodle. This should contain all the information regarding the planning of your project. A final pdf of this workflow must be uploaded to Moodle by Thursday May 8th.

The code referenced is the code you write to implement the workflow, likely a colab workbook (though you can use other options). You should have discussions inside your code that discuss your findings, and a workbook is a great way to be able to do this. All code must be finalized by Thursday May 8th.

Peer Evaluations and Project Workdays (16pt)

We will have several in-class workdays to get feedback on our projects from peers. This section mainly checks to see if you are keeping on track with your planning and implementation, and how thoughtful your contributions were during the peer reviews. **Late work**: For materials in this section that are submitted 1-6 days late, half credit will be given. No credit will be given for materials submitted a week after the deadline (see project overview for details), or after the first presentation day (whichever comes first).

Workday 1: EDA (4)

Points	Criterion
1	Participated in peer evaluations during class
1	Handed in completed EDA slide (slide4)
1	Completed an initial pass at code that implements at least half of the ideas from the EDA slide
1	Turned in peer evaluation at the end of class

Workday 2: DATA (4)

Points	Criterion
1	Participated in peer evaluations during class
1	Handed in completed DATA slide (slide5)
1	Completed an initial pass at code that implements at least half of the ideas from the DATA slide
1	Turned in peer evaluation at the end of class

Workday 3: SEL-TRAIN (4)

Points	Criterion
1	Participated in peer evaluations during class
1	Handed in completed SEL (slide6) and TRAIN (slide7) slides
1	Completed an initial pass at code that implements at least half of the ideas from the SEL and TRAIN slides
1	Turned in peer evaluation at the end of class

Workday 4: EVL (4)

Points	Criterion
1	Participated in peer evaluations during class
1	Handed in completed EVL slide (slide8)
1	Completed an initial pass at code that implements at least half of the ideas from the EVL slide
1	Turned in peer evaluation at the end of class

Plan, Implementation, and Submission (26pt)

This section assesses with how well you followed through with your plan in order to implement an end-to-end machine learning workflow via Python. It looks at how detailed your workflow is, as well as how thoughtful the discussion of insights you found along the way are. This discussion should be located somewhere in your code workbook. The workflow items in this section will be assessed following project workdays. The remaining items will be assessed after the presentation. **Late work**: Any workflow items not completed by the corresponding project workday will receive half credit. No credit will be given to any items completed on or after the first presentation day.

Slide 2 - Select a Dataset (4)

Points	Criterion
1	The url of the workflow (slide deck) has been uploaded to Moodle
1	Dataset has been selected.
1	The url to a colab workbook is included
1	A clear and thorough explanation of the goal(s) in working with the data is included

Slide 4 + code - EDA (4)

Points	Criterion
1	Workflow contains sufficient exploratory data analysis.
1	The code implements the workflow effectively
1	The code contains analysis and discussion of findings
1	The discussion is clear, correct, and thorough.

Slide 5 + code - DATA (4)

Points	Criterion
1	Workflow contains sufficient data cleaning and/or conversions.
1	The workflow is appropriate for the project
1	The code implements the workflow effectively
1	The code contains a brief discussion of the steps taken

Slide 6 + code - SEL (4)

Points	Criterion
1	Workflow contains a null and basic algorithm
1	Workflow contains a complex algorithm
1	Workflow uses appropriate algorithms for the problem
1	The code implements the workflow effectively

Slide 7 + code - TRAIN (4)

Points	Criterion
1	Workflow contains parameter tuning for most algorithms
1	Workflow uses appropriate tuning grids for the selected algorithms
1	Workflow contains multiple training-testing splits
1	The code implements the workflow effectively

Slide 8 + code - EVL (4)

Points	Criterion
1	Workflow contains calculations on the accuracy of the results for all algorithms
1	Workflow contains calculations on the accuracy of the results across multiple training-testing splits
1	A discussion comparing the results is included
1	The discussion is thorough and complete

Submission (2)

Points	Criterion
2	Completed implementation of workflow by the deadline

Presentation Days (18pt)

The last two days of class will be project presentations. **Late work**: no late work accepted for this section.

In-class Presentation (10)

Points	Criterion
1	Presentation is polished and well-prepared
1	Presentation tells a compelling story
1	Thorough and clear explanation of the data set
1	The goals of the project are clearly defined
1	Visualizations used make sense
1	Visualizations used are thoughtful and tell a story
1	Discussion and analysis of the results and findings
1	The presentation is given at a level easily understandable to other students in the class
2	Presentation pdf was submitted by the deadline

Presentation Days - Peer Reflections (4)

Points	Criterion
1	Attended both presentation days
1	Turned in peer evaluations
1	Turned in thoughtful peer evaluations
1	Asked one thoughtful question to a presenter

Reflection (4)

Points	Criterion
3	Completed reflection form up on Moodle
1	Reflection contained thoughtful responses