Responsible Machine Learning
Final Assessment
20 points

November 3, 2026

In your final assessment, you will work with your group to create a model card for your best remediated model following the instructions below. A rubric and example model cards are provided to help you better understand the requirements for this assessment.

Please let me know immediately if you find typos or mistakes in this assignment or related materials.

1 References and Examples.

Documentation is an important transparency mechanism that enables many other elements of responsible ML. Model cards are a new and easy way to document key details about models. Model documentation helps data scientists communicate about their models so that their co-workers can maintain the model over time and respond quickly to any incidents. Model documentation enables executive review of technical decision making and is also required by regulation in certain cases.

References:

- *Model Cards for Model Reporting*
- Model Cards (Google)

Example: `https://github.com/jphall663/GWU_DNSC_6301_project`. (This example is not complete, but should get you started on the right path.)

2 Instructions and Rubric.

This is a pure technical writing assignment. Very little introduction, narrative, or conclusion text is necessary. You may make copious use of bullet points, charts, and tables. (But remember that all charts and tables should have numbers and descriptions!)

Your model card must include the following sections: Intended use, Training data, Evaluation data, Model details, Quantitative analysis, Ethical considerations. The focus of the model card should be your best performing remediated model. You should briefly address your other models as "alternative approaches" in the Quantitative analysis section, and point to why your main model is a better choice.

Rubric:

- Structure (6 pts.)
  - Name and contact information for all group members. (Feel free to anonymize for this assignment. The idea for the real-world is to "sign" your work and make it easy to find yourself if there are problems in the future, i.e., ***accountability***) (1 pt.)

  - Clearly delineated sections for:
    * Intended use ($\frac{1}{2}$ pt.)
    * Training data ($\frac{1}{2}$ pt.)
    * Evaluation data ($\frac{1}{2}$ pt.)
    * Model details ($\frac{1}{2}$ pt.)
    * Quantitative analysis ($\frac{1}{2}$ pt.)
    * Ethical considerations ($\frac{1}{2}$ pt.)
  - Correct and informative external links (e.g., to training and evaluation data) ($\frac{1}{2}$ pt.)
  - Correct use and introduction of abbreviations ($\frac{1}{2}$ pt.)
  - Charts or tables:
    * Meaningful and informative use of charts or tables ($\frac{1}{2}$ pt.)
    * Proper description of charts or tables ($\frac{1}{2}$ pt.)

- Content (13 pts.)
  - Intended use (2 pts.)
    * Describe the business value of your group's best remediated model
    * Describe how your group's best remediated model is designed to be used
    * Describe the intended users for your group's best remediated model
    * State whether your group's best remediated model can or cannot be used for any additional purposes
  - Training data (2 pts.)
    * State the source of training data
    * State how training data was divided into training and validation data
    * State the number of rows in training and validation data
    * Define the meaning of all training data columns
    * Define the meaning of all engineered columns
  - Evaluation data (2 pts.)
    * State the source of evaluation (or "test") data
    * State the number of rows in evaluation (or "test") data
    * State any differences in columns between training and evaluation (or "test") data
  - Model details (2 pts.)
    * State the columns used as inputs in your group's best remediated model
    * State the columns used as targets in your group's best remediated model
    * State the type of your group's best remediated model
    * State the software used to implement your group's best remediated model
    * State the version of the modeling software for your group's best remediated model
    * State the hyperparameters or other settings of your group's best remediated model
  - Quantitative analysis (3 pts.)
    * State the metrics used to evaluate your group's best remediated model
    * State the values of the metrics for training, validation, and evaluation (or "test") data – evaluation (or "test") metrics come from the most recent class full evaluation results, link under Assignment 1.
    * Provide at least one plot or table from each weekly assignment for a total of at least six plots, that must include the global variable importance and partial dependence of your group's best remediated model.

    - Address other alternative models considered
  - Ethical considerations (2 pts.)
    - Describe potential negative impacts of using your group's best remediated model:
      - Consider math or software problems
      - Consider real-world risks: who, what, when and how?
    - Describe potential uncertainties relating to the impacts of using your group's best remediated model:
      - Consider math or software problems
      - Consider real-world risks: who, what, when and how?
    - Describe any unexpected or results encountered during training

- Grammar and spelling (1 pt.)
  - Correct grammar and punctuation ($\frac{1}{2}$ pt.)
  - Correct spelling ($\frac{1}{2}$ pt.)

3 Model Card as GitHub `README.md`.

Your deliverable for this assignment is to update your group's GitHub repository to include your model card as the GitHub repository's `README.md` file.

Your deliverable is due Sunday, May 4$^{\text{th}}$, at 11:59 PM ET.