



Data Boot Camp Grading Rubric

Project #4: Machine Learning Integration

Instructions:

Evaluate the student's submitted Final Project assignment and presentation against the outlined criteria in the rubric below and assign a rating to each criterion. Add points earned across all criteria and convert the total points to a letter grade using the *Recommended Final Project Scoring Breakdown*.

Note:

We encourage students to collaborate and share ideas during the project weeks. Therefore, you may notice shared code, documentation, and/or write-up explanations across student submissions. This is acceptable and should be a consideration when assigning a rating to the student's performance.

Recommended Final Project Scoring Breakdown

| Total Rubric Points Achieved | Project Grade |
|------------------------------|---------------|
| 90 or more | A |
| 80–89 | B |
| 70–79 | C |
| 60–69 | D |
| 59 or less | F |

Rubric for Skill Drills:

| | Proficiency 20 points | Approaching Proficiency 17 points | Developing Proficiency 14 points | Emerging 12 points | Incomplete |
|--|--------------------------|--------------------------------------|-------------------------------------|-----------------------|------------|
|--|--------------------------|--------------------------------------|-------------------------------------|-----------------------|------------|



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Project #4: Machine Learning Integration

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|----------------------------------|---|---|---|---|---|
| Data Model Implementation | <p>Student produces an analytical model in Python that fulfills all the following specifications:</p> <ul style="list-style-type: none"> √ Script initializes, trains, and evaluates a model, or loads a pretrained model from hyperparameter tuning √ Script cleans, normalizes, and standardizes input data prior to modeling √ Model utilizes data retrieved from a relational database or big data source (SQL or Spark) √ Model demonstrates meaningful predictive power (>75% classification accuracy, >80 R-squared) | <p>Student produces an analytical model in Python that fulfills all the following specifications:</p> <ul style="list-style-type: none"> √ Script initializes, trains, and evaluates a model, or loads a pretrained model from hyperparameter tuning √ Script cleans, normalizes, and standardizes input data prior to modeling √ Model utilizes data retrieved from a relational database or big data source (SQL or Spark) | <p>Student produces an analytical model in Python that fulfills all the following specifications:</p> <ul style="list-style-type: none"> √ Script initializes, trains, and evaluates a model, or loads a pretrained model from hyperparameter tuning √ Script cleans, normalizes, and standardizes input data prior to modeling | <p>Student produces an analytical model in Python that fulfills all the following specifications:</p> <ul style="list-style-type: none"> √ Script initializes, trains, and evaluates a model, or loads a pretrained model from hyperparameter tuning -OR- √ Script cleans, normalizes, and standardizes input data prior to modeling | <p>No submission was received</p> <p>-OR-</p> <p>Submission was empty or blank</p> <p>-OR-</p> <p>Submission contains evidence of academic dishonesty</p> |
| Data Model Optimization | <ul style="list-style-type: none"> √ Clear, well-documented evidence of model optimization and performance evaluation in the form of one of the following: <ul style="list-style-type: none"> √ A CSV/Excel table showing model designs, testing parameters, and model performance √ A Python script that utilizes hyperparameter tuning logic -AND- √ Overall model performance is printed or displayed at the end of the script | <ul style="list-style-type: none"> √ Some evidence of model optimization and performance testing within Python scripts -AND- √ Overall model performance is printed or displayed at the end of the script | <ul style="list-style-type: none"> √ Overall model performance is printed or displayed at the end of the script | <ul style="list-style-type: none"> √ Performance of the model is unknown/unclear | |
| Project and | √ Successfully uploaded to | √ Successfully uploaded to GitHub; | √ Successfully uploaded to GitHub; | √ Unsuccessful uploads to GitHub | |



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|---|--|---|--|---|--|
| Documentation Uploaded to GitHub | <p>GitHub; demonstrating professional quality of presentation</p> <p>✓ GitHub repository is free of unnecessary files and folders and has an appropriate .gitignore in use</p> <p>✓ The README is customized to a professional level</p> | <p>demonstrating professional quality of presentation</p> <p>✓ GitHub repository has minimal unnecessary files and folders (no more than two) and has an appropriate .gitignore in use</p> <p>✓ The README is customized to a basic level</p> | <p>demonstrating professional quality of presentation</p> <p>✓ GitHub repository has minimal unnecessary files and folders (no more than three)</p> <p>-OR-</p> <p>✓ Does not use a .gitignore text file</p> <p>✓ The README is minimally customized</p> | <p>✓ Does not use a .gitignore text file</p> <p>✓ The README has no customization</p> | |
| Group Presentation | <p>✓ All group members spoke during presentation</p> <p>✓ Group was well prepared</p> <p>✓ Presentation was relevant to material</p> <p>✓ Presentation maintains audience interest</p> | <p>✓ All group members spoke but didn't split time equally</p> <p>✓ Group was mostly prepared, with minor hiccups</p> <p>✓ Presentation was almost entirely relevant</p> | <p>✓ Some group members barely spoke, others spoke for much longer</p> <p>✓ Group was fairly well prepared but encountered some major hiccups</p> <p>✓ Presentation was mostly relevant</p> | <p>✓ Not all group members spoke during presentation</p> <p>✓ Group seemed unprepared, presentation was scattered or confusing</p> <p>✓ Presentation was not relevant to material</p> | |
| Slide Deck | <p>✓ Slides are visually clean and professional</p> <p>✓ Slides are relevant to material</p> <p>✓ Slides effectively demonstrate project</p> <p>✓ Slides are clear and maintain audience interest</p> | <p>✓ Slides are visually clean and professional but contain minor areas for improvement</p> <p>✓ Slides are almost entirely relevant to material</p> <p>✓ Slides are mostly effective at demonstrating project</p> | <p>✓ Slides are visually clean and professional but contain areas for improvement</p> <p>✓ Slides are somewhat relevant to material</p> <p>✓ Slides are somewhat effective at demonstrating project</p> | <p>✓ Slides are not visually clean and professional and contain substantial areas for improvement</p> <p>✓ Slides are not relevant to material</p> <p>✓ Slides do not effectively demonstrate project</p> | |