UDACITY

Back to Machine Learning Engineer Nanodegree

Machine Learning Capstone Project

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

Dear Learner,
Congratulations!!! You made it.
It is truly exceptional that you passed all the questions right in your first submission.
It shows you do understand all the concepts it taught in the lectures thoroughly. And I really love your self-made example to elaborate your answer. It is much easier for me to understand what you describe.
Hope the lectures and this project in particular have effectively taught you.

To be honest, I really like the way this project was implemented. Please keep up the hard work!👍

> **I must endorse the hard work and determination I perceived in this implementation and want this spirit to be maintained throughout learning with us and I hope you will soon become one of us. Please keep up the spirit!👍**

Definition

Student provides a high-level overview of the project in layman's terms. Background information such as the problem domain, the project origin, and related data sets or input data is given.

Splendid! This is a nice idea and this study may be of great help to the real-world if we formulate a strong model. It is essential to know what our goal here and your discussion provides solid input to it.

model. It is essential to know what our goal here and your discussion provides solid input to it.

Suggestions and Comments

It will also be good to provide your personal motivation for this topic in order to better attract your reader.

The problem which needs to be solved is clearly defined. A strategy for solving the problem, including discussion of the expected solution, has been made.

Excellent discussion of the problem!
The details are well-defined. This is a really interesting project since it affects the real-world and with the proper tools of Machine Language, hopefully it will aid people who work in this field. The strategy is well-thought of and has nice supporting data and features to arrive to the solution.

Metrics used to measure performance of a model or result are clearly defined. Metrics are justified based on the characteristics of the problem.

Excellent choice for the metrics. They are indeed substantial to the problem and you have provided a nice justification on their usage and importance. Keep up the great work!

Pro Tips

Please check on the following links for more information on the choice of metric for machine learning tasks.

- Here is a good link on Choosing the Right Metric for Evaluating Machine Learning Models. It can help you confirm if you are on the right path with your chosen metric.
- Have a look too at Metrics to Evaluate your Machine Learning Algorithm, you might find interesting.

Analysis

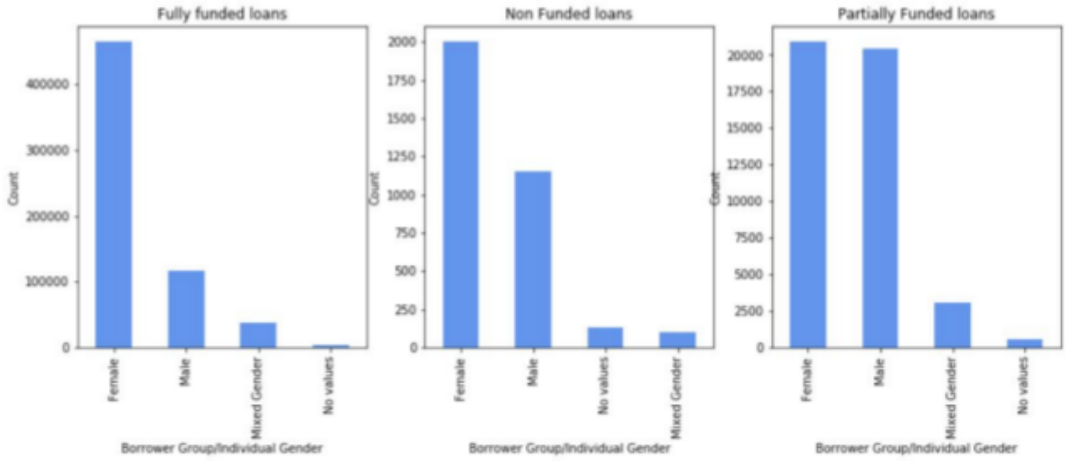
If a dataset is present, features and calculated statistics relevant to the problem have been reported and discussed, along with a sampling of the data. In lieu of a dataset, a thorough description of the input space or input data has been made. Abnormalities or characteristics about the data or input that need to be addressed have been identified.

> Our dataset has an attribute/feature called use. This field gives the borrower the possibility to describe in detail what the loan is going to be used for. When we compare the frequency of nans for this attribute we get that non funded loans make 3.09 % of all loans with nans, but remember that the non funded loans roughly make 0.5 % of the general population.

Good description.

A visualization has been provided that summarizes or extracts a relevant characteristic or feature about the dataset or input data with thorough discussion. Visual cues are clearly defined.

Awesome usage of visualizations and discussion of the features of the dataset! These types of visualizations show emphasis on the data that we need to solve and it is good to see that the data is sorted out in a way that the readers can easily understand it even without too much context.



Algorithms and techniques used in the project are thoroughly discussed and properly justified based on the characteristics of the problem.

Good choice of algorithms! These are really efficient and it seems that it fits well for your project. We need to identify our data and what is the optimal algorithm for them and I believe your choices are superb.

Student clearly defines a benchmark result or threshold for comparing performances of solutions obtained.

Good choice for a benchmark! It is essential to choose the proper benchmark for us to compare the final model later on.

Suggestions and Comments

Some notes for you are given below:

- The reason for a choice of a benchmark model is to help us evaluate at the end of the work whether or not we have done any reasonable and acceptable improvement to the problem.
- It is often advised that as a beginner you chose a benchmark model you are more likely to obtain better results than after running your own model. This will make the essence of a benchmark model and machine learning as a whole clearer to you.
- It is also necessary that both the benchmark model and the model you build work on the same dataset. This places both models on a common ground for evaluation.

Suggestions and Comments

Please check on the following links that provide more information on choosing a nice benchmark for a machine learning problem

- http://www.stratio.com/blog/benchmarking-machine-learning-prediction-models/
- https://blog.dominodatalab.com/benchmarking-predictive-models/

Methodology

All preprocessing steps have been clearly documented. Abnormalities or characteristics about the data or input that needed to be addressed have been corrected. If no data preprocessing is necessary, it has been clearly justified.

Nice job here providing sufficient details of the preprocessing techniques used.

The process for which metrics, algorithms, and techniques were implemented with the given datasets or input data has been thoroughly documented. Complications that occurred during the coding process are discussed.

Great job discussing the different techniques implemented with the given dataset! It is nice that you discussed the step-by-step process thoroughly. Readers would have an easy time understanding the process, it still contains some technical terms but they are easily understandable. 👍

The process of improving upon the algorithms and techniques used is clearly documented. Both the initial and final solutions are reported, along with intermediate solutions, if necessary.

Well done!

Results

The final model's qualities — such as parameters — are evaluated in detail. Some type of analysis is used to validate the robustness of the model's solution.

The final model and supporting qualities were evaluated in detail. Great improvement!

The final results are compared to the benchmark result or threshold with some type of statistical analysis. Justification is made as to whether the final model and solution is significant enough to have adequately solved the problem.

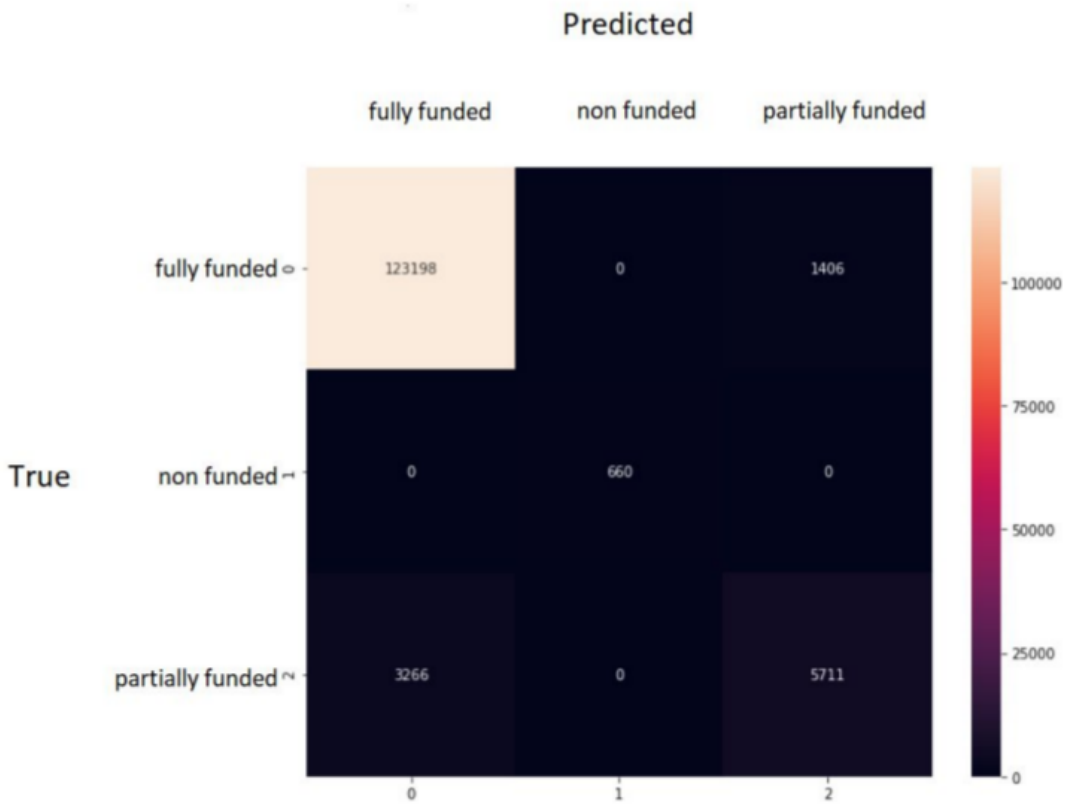
Nice comparison of your model's results.

Error: undefined

Conclusion

A visualization has been provided that emphasizes an important quality about the project with thorough discussion. Visual cues are clearly defined.

Good work! A relevant quality about the project has been visualized and thoroughly discussed.



Student adequately summarizes the end-to-end problem solution and discusses one or two particular aspects of the project they found interesting or difficult.

Good work!

Discussion is made as to how one aspect of the implementation could be improved. Potential solutions resulting from these improvements are considered and compared/contrasted to the current solution.

> Given more computing power I would set up a bigger grid for the neural network allowing RandomizedsearchCV not only to find the best parameters but also the best architecture. In other

> RandomizedSearchCV not only to find the best parameters but also the best architecture. In other words I would add the number of nodes in the hidden layer as a parameter for the search. This would give a more methodical approach to the question “How many nodes do we need?”

Great job!

Quality

Project report follows a well-organized structure and would be readily understood by its intended audience. Each section is written in a clear, concise and specific manner. Few grammatical and spelling mistakes are present. All resources used to complete the project are cited and referenced.

Fabulous job! Well organized structure and great writing skills. It was a delight to read this.

Code is formatted neatly with comments that effectively explain complex implementations. Output produces similar results and solutions as to those discussed in the project.

Awesomely done! The codes are well formatted and straightforward to follow.

DOWNLOAD PROJECT

RETURN TO PATH

Rate this review