Fetch Rewards Take-home Exercise - Machine Learning Engineer

Instructions

At fetch, we are monitoring the number of the scanned receipts to our app on a daily base as one of our KPIs. From business standpoint, we sometimes need to predict the possible number of the scanned receipts for a given future month.

The following link provides the number of the observed scanned receipts each day for the year 2021. Based on this prior knowledge, please develop an algorithm which can predict the approximate number of the scanned receipts for each month of 2022.

Data

Expected Delivery

- You are expected to build an ML model from scratch to address this challenge. Your solution can be simple or complex. You are allowed to develop your solution using any languages and frameworks like PyTorch or Tensorflow. But please note that we would like to use your solution to understand your ML knowledge base. So please avoid from using any high level libraries like scikit-learn which makes it impossible to exhibit your ML skills.
- Additionally, you are expected to build up a small app which will run an inference procedure against your own trained model and return the predicted results. You are free to build up any form of app like a web service or so but having user interaction and some sort of visualization will be a plus.
- If possible, please package your app in a Docker container that can be built and run locally or pulled down and run via Docker Hub.
- Please assume the evaluator does not have prior experience executing programs in your chosen language. Therefore, please include any documentation necessary to accomplish the above requirements.
- The code, at a minimum, must run. Please provide clear instructions on how to run it.
- When complete, please upload your codebase to a public Git repo (GitHub, Bitbucket, etc.) and email us the link. Please double-check this is publicly accessible.

FAQs

How will this exercise be evaluated?

An engineer will review the code you submit. At a minimum they must be able to run the program, and the program must produce the expected results. You should provide any necessary documentation within the repository. While your solution does not need to be fully production ready, you are being evaluated so put your best foot forward!

I have questions about the problem statement.

For any requirements not specified above, use your best judgement to determine expected result. You can elaborate on your decisions via the documentation you provide in your repo.

Can I provide a private repository?

If at all possible, we prefer a public repository because we do not know which engineer will be evaluating your submission. Providing a public repository ensures a speedy review of your submission. If you are still uncomfortable providing a public repository, you can work with your recruiter to provide access to the reviewing engineer.

How long do I have to complete the exercise?

There is no time limit for the exercise. Out of respect for your time, we designed this exercise with the intent that it should take you a few hours. But, please take as much time as you need to complete the work.