Data Scientist, Algorithms - Technical Test

Context

Users request rides in the Heetch mobile app. Assuming nearby drivers are available, the Heetch backend sends a booking requests to a driver, who can accept or decline the ride.
Note: If the driver declines, Heetch can query one or more extra drivers (under certain conditions), therefore issuing more booking requests for the same ride request.

Data

This repository contains 3 simplified log files representing 24hr worth of various data:

1. rideRequests.log

Each line represents a user requesting a ride from a pickup location to an arrival location.

- `ride_id`: each ride request is assigned a unique identifier
- `created_at`: the epoch when this log entry was appended
- `origin_lat` and `origin_lon`: the pickup location
- `destination_lat` and `destination_lon`: the arrival location

1. bookingRequests.log

Each line represents an attempt to offer a given ride to a given driver.

- `request_id`: each booking request is assigned a unique identifier
- `logged_at`: the epoch when this log entry was appended
- `ride_id`: each booking request is linked to a user-iniated ride request (see 1.)
- `driver_id`: each booking request is sent to a given driver (see 3.)
- `driver_accepted`: the driver's response (boolean)
- `driver_lat` and `driver_lon`: the location of the driver at the time the booking request was dispatched

1. drivers.log

Each line represents a driver state change.

- `driver_id`: each driver is assigned a unique identifier
- `logged_at`: the epoch when this log entry was appended

- `new_state`: the driver's state, which can be one of {`connected`,`disconnected`,`began_ride`,`ended_ride`}

Exercise

Build a model that predicts whether or not a driver will accept a given booking request.
Use the languages, tools, methods and metrics of your choosing.

Please share your code along with an instructions file that:

1. explains how to run it,
2. details your reasoning,
3. presents your results/conclusions.

If you have any questions or need more information, feel free to reach out!
Happy hacking! :)