Challenge

Senior Backend Engineer (Data Science)

Thank you for your application! We like what we have seen so far and want to take your application to the next stage. Therefore, we invite you to participate in a small challenge, similar to the type of tasks you would tackle at komoot.

Imagine you are the next Backend Engineer at komoot. One morning your colleagues from community management ask you for some support. While the task is thematically not related to your usual work, your skills are of great help.

On a specific day, the community management team wants to encourage our user base to team up with other outdoor enthusiasts and go on a group ride of around 50km. A week before, they would like to send a personalized newsletter to all cyclists letting them know about the initiative and other komoot users close to them. This will allow interested people to reach out to other users and see who else would like to join. To simplify organization of the ride event even further, we would also like to suggest a starting point suitable for the selected users. It is about cycling, so we do not want people to take a car but to cycle to the meeting point.

We prepared some synthetic sample data for cycling activities recorded recently by our users from Berlin. The file contains user IDs and the location of the starting point of their latest tours. Your task is now to create a command-line tool that reads this file (and any other csv file from other locations) and creates another csv file that can be used to send the newsletter. This csv file should contain at least these columns:

```
user_id,  start_point_id, start_point_latitude, start_point_longitude, potential_group_members
a24f044d, df2df         , 52.852575           , 13.543113,             "062eg4d,a9c4f12dd,…"
```

Use Python and send us the code, the resulting csv file, a small description, and instructions on how to set up and run your application. Please also provide additional information to help us understand how you came to your solution, where you see your approach's strengths, limitations, and where additional work is required. Finally, please tell us what you learned through our challenge.

An excellent engineer should be able to complete this challenge in a few hours. Please come up with a solution within a week and let us know if you need more time.