

Data Scientist - Take Home Task

Thank you for your interest in the Duolingo team!

The next step in the interview process is a take home data analysis project. Please limit yourself to no more than **6 hours** on this. You may use any analytics tool(s) you wish, though the bulk of your code should be in R or Python.

At the beginning of 2022, we conducted a survey of Duolingo users. The survey asked users a series of questions about demographics (e.g., country, age, employment status), and motivation (e.g., primary reason for studying a language). The goal of this survey was to develop user segments (or personas) to inform future marketing efforts and product development.

We have provided you with data from our user survey as well as usage data from Duolingo for users included in the survey. Usage data was collected from May 1, 2022 to August 5, 2022.

Note that the data may require some reformatting or cleaning.

Datasets and data dictionaries can be found [here](#).

For this task, you have three objectives:

- 1) Explore the data
- 2) Use quantitative methods to identify a set of user segments/personas
- 3) Identify any actionable product or marketing insights

Please submit a brief (1-2 page) report, including:

- A high-level **summary of your methods**
- A description of your proposed user personas, including **key visualizations**
- **Product recommendations** based on insights about your personas

Imagine that the **principal audience for your report is non-technical (e.g., a product manager)**. However, data scientists may also read your report, and it should include enough detail that they can evaluate your analyses at a high level.

Please **submit your code in a readable file format** (e.g., html/pdf/ipynb for jupyter, rmarkdown, or a script file) along with your report. Remember to include the necessary comments / documentation.

You will be evaluated on both the quality of your source code and your written report.
Please include all of your code, even for analyses that don't make it into the final writeup.

Good luck and have fun!