

CBRE Build Seattle

Data Scientist Technical Interview

Thanks for applying for the Data Scientist position with us ! We're excited to meet you in person for an in-person interview.

As part of this interview process, we'll be asking you to present some of your work. We'd like to see a complete analysis, including

- Ingesting data into a Python environment (or a language of your choice)
- Cleaning the data, looking at its layout and completeness, and identifying any problems
- Exploring the data for its statistical properties
- Drawing conclusions from your analysis, paying attention to what assumptions are made
- Presenting your insights cleanly and clearly

DealIQ user tracking data

We've attached some data for you to explore. We do a lot of work tracking users in *DealIQ*, our broker operating platform. It's a web-based tool where brokers and those who work with them can manage their day-to-day. Whenever users perform an action in DealIQ, we track it so that we can assess who uses which functions and how frequently. Here's some guidance on what's attached.

- `cbre_human_resources.csv` contains data on the brokers, admins, and market researchers who use DealIQ
- `cbre_nps_scores.csv` contains Net Promoter Scores (a 0 to 10 "how likely are you to recommend DealIQ to your friends ?" score), a question we periodically ask our users
- `cbre_user_events.csv` contains the tracked user events as a time-series

The analysis

You can take this analysis in any direction you like. However, you may wish to consider the following points.

- We've asked users for their Net Promoter Score several times over their lifetimes in DealIQ. We'd like to know where we stand per each user's latest score.
- The feedback we're getting from users seems to be getting increasingly positive. Do our NPS values reflect this ?
- The Marketing Team have a hypothesis that brokers like DealIQ more than Admins. Can you find evidence for this ?
- We suspect users have been getting more active over time, especially on weekdays. Can you confirm or reject this idea ?
- Some users seem to use Notes and Tasks interchangeably. Can you provide any insight into which kinds of users are using which features here ?

We encourage you not to spend more than a couple of hours on it, and you don't need to touch on all these points. **In terms of evaluation criteria**, we're looking for good, clean code; reproducibility; and solid insight into what's going on behind the data.

We'll be going over your work together, so please ensure you can run this analysis and talk us through your results during the interview. We're happy to run things on your laptop, or ours if you provide a repository with directions for setting up the environment.

Feel free to reach out to Quentin at quentin.caudron@cbre.com with any questions !