SAMPLE-Data Science Candidate Guide

1. Introduction Who is this for?

This guide is for candidates wishing to join the XXXX Data Science team, who wish to know more about the interviewing process.

2. Interview Process:

The Data Science interviewing process typically has four stages:

1) Phone interview lasting approximately 30 minutes with a senior data scientist, to find out a little bit about you. This will include recent projects you've worked on, techniques used and courses taken. There will be technical questions, but these will be general and not to the same depth as the in-person technical interview.

2) Take-home task which will take approximately 4 hours to complete and will be reviewed by a senior data scientist.

3) On-site technical interview lasting approximately 2 hours with senior software engineers.

4) Final phone interview lasting between 15 and 30 minutes with Recruitment or member of the senior management team to discuss your background and future ambitions, to help determine how well you would fit into the XXXXXspace team.

This four-stage process usually takes place over a 3-week period, depending on availability of people for interviews. We will keep you (or your recruitment agent) updated on your progress, but it may not always be possible to give detailed feedback, especially to candidates who are unsuccessful at the phone interview stage.

3. Take-home task

We will send you the take-home task a before the scheduled interview date. The task aims to evaluate two things:

- Your ability to turn a business problem into a data science problem;
- Your ability to write code to solve that data science problem.

  This is not intended to be a very challenging task – please spend no more than 4 hours working through the task and summarizing your solution. You should submit your solution, plus the code used to process the data, no less than two working days prior to the interview date.

  Feeling nervous is entirely understandable, so we hope that by having some tasks and problems you've worked on at home, you will be a little more comfortable in the technical interview having something familiar to work from. It will also give you a bit of an insight into the role!

4. Technical Interview

We will be discussing some very technical concepts and asking you to work on some machine learning based problems. Please do not be concerned if you do not know the answer straight away; we use these tests to see how you think and how you address unfamiliar problems. The interview is split into two halves, exploring your knowledge around programming and data science.

4.1. Programming Interview

We will be discussing some very technical concepts and asking you to write some code on a whiteboard to solve a few problems.

This can be in any language, or in pseudocode – we won’t be concerned with syntax or if you miss a semi-colon; we use these tests to see how you think and how you address unfamiliar problems. We will also make allowances for the fact that writing code on a whiteboard is a very artificial situation – please take your time, ask any questions you

need, and think through your solution to the problem out loud before diving straight in to the code.

Having an in-depth understanding of data structures and algorithms will be very useful. This list is an example of the kinds of concepts that may come up in interview:

- Array / List
- Binary tree, Binary search
- Hashtable / Hashmap / Dictionary
- Stack, Queue
- Graphs
- Sorting
- Recursion

  It will be very helpful to understand in detail how these work (not just what they do), and in what situations they would be useful. We will want to discuss the time complexity of your solutions to the problems, their performance and their suitability for use in different situations – make sure you are aware of Big O notation.

4.2. Data Science Interview

The data science interview is structured into two segments. We begin by discussing data science projects that you've worked on in the past, we will then explore a case study. It will be useful to have a good understanding of supervised and unsupervised machine learning techniques such as classification and clustering. We may explore these techniques in depth – it will be advantageous for you to understand how they work, in addition to knowing how to use them and in what situations they would be helpful.

5. General Guidance

Our interviews are designed to put you at your ease. We won’t be trying to trip you up or asking sneaky ‘gotcha’ questions, if you don't know the answer be honest and say so.

Alongside getting to know you and talk about your experience and ambitions, we’ll be deliberately asking questions in areas which you will likely have little to no experience. This is to see how you adapt to new situations and pick up new concepts – but we will do so in a way that there are no 'tricks'. Please ask all the questions you want – making sure the problem is fully understood and talking your solution through before diving into code is a good way to start.

We’re interested in meeting intelligent people who can learn new things quickly, and who have the right attitude – passion, curiosity, flexibility, adaptability and a real interest in what they do. We’re most interested by people who bring genuine engagement – some of our best interviews have ended up feeling more like a discussion between peers on an interesting technical topic. We hope you have a good time talking to us and we look forward to welcoming you to XXXXXspace.

6. Remote Interviews

Remote technical interviews are conducted over Zoom or Webex. They follow the same structure as described above in this document with programming and data science components.

The programming questions and data science case study resources will be shared with you via Google Jamboard so you can reference them easily during the interview. The interviewers will share the link to the Jamboard during the interview.

Being remote makes using a whiteboard for coding challenging! Instead, we find that a screen share using a text editor works best. We understand that a text editor may not be your usual choice of IDE but we have found that the absence of syntax error highlighting in a text editor allows you and us to focus on the structure and logic of the code being written without the distraction of whether the code will compile and run. Remember that we care most about your thought process and understanding than your memory of an API specification.

7. Dress Code

We don't dress formally at work and so we don't expect you to dress formally for the interview! The accepted dress code for everyone at XXXXXspace is business casual which we invite you to follow.