**A Day in the Life of a Senior Data Scientist**

Including a rundown of a common step-by-step project outline

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**Introduction**

*Target audience:*

*This article is intended for those who are current data scientists and interested in becoming a senior data scientist. It can also serve as an example of working in data science in general for those looking to switch careers.*

Let’s get the first thing clear, a senior role is different from company to company, so please take this day-in-the-life with a grain of salt. The main difference between a senior and non-senior role, to me anyway, is that a senior position usually involves more collaboration cross-functionally between different teams and stakeholders. It may also be the case that you own an entire project, very similar to a product manager, where you are not only coming up with the solution, but also coming up with the why and its impact, say KPIs (*Key Performance Indicator*), for example. With that being said, let’s jump into an example of a typical day for a senior data scientist.

**Responding, Planning, and Meeting Updates**

*Usually in the morning*

I’ll try to order these main events in order of time, but keep in mind these can flip depending on the demand of the task at hand.

*Responding*

You might be surprised to find out that a lot of your mornings or day for that matter, can be composed of responding to Slack threads. These discussions can range from anything like a simple clarification of data science jargon, to a long-detailed thread response back and forth between multiple people that is more-or-less a brainstorming session on the next steps for a specific project.

Slack or whatever tool your company may use can be a pro or con as it can be distracting to some at different times, but it can also be a quicker way to answer questions than participating in an entire meeting, whether that be in person or on a video call like Zoom.

*Planning*

You may also not have any urgent notifications to respond to in the morning, but either way, you will want to plan out the rest of your day based on the priority of the asks. Sometimes your duties will actually be ranked based on the priority level, so you will have a clear expectation of the order in which you will need to execute your tasks, whether that be a data request, or a longer project like obtaining features for your data science model. These asks can actually be a mix of others requesting from you to yourself organizing your own requirements for a project.

*Meeting Updates — Standup (*as some companies call it*)*

Next, you will usually have some type of morning meeting where you will update a stakeholder(*s*), manager, and other people in involved in a project. These meetings are important so that everyone is on the same page about what has been done so far, and what still needs work, and they usually come in the form of a small, quick meeting time so it is as efficient as possible, not taking away time from others’ day.

Now that we have a general concept of a typical morning, let’s give some specific examples of these events:

**Responding:**

* Answer clarifying, urgent Slack questions that are usually not needed to be an official task ticket — ex: “*do you mind sending me the dashboard link for this analysis*”, “*can you explain to me what MAE means?*”, and “*what are the main KPIs for this AB Test?*”, etc.

**Planning:**

* Based on your responses, you might create an official ticket (*a popular project management tool, Jira, for example, which uses a Kanban board*) — ex: there may have been a disagreement between the KPIs for a project based on disadvantages that arise, so a ticket could be created to analyze another KPI that is perhaps faster and achieves similar, useful decision-making criteria

**Meeting Updates:**

* Updating stakeholders on what happened, what went wrong (*if anything did*), what is the blocker (*if there is one*), what is needed, and what are the next steps — and who else needs to be pulled in to answer any outstanding questions — ex: we are blocked on this project because there is an outstanding ticket to incorporate a new column into a database table that is needed for the data science model feature set

**Expected Data Science Work**

***Updating Ticketing***

Assuming you are using some sort of ticketing system to organize tasks, like the aforementioned Jira tool, you will want to update what is in your backlog, in progress, and what is now done. These facets might be different in your company. For example, you might have a planning section too. The most important part is that your team is aligned on what each bucket means, regardless of the title of the bucket and how many you have.

In this section, I can go a little more into detail on data-science-specific tasks, while the seniority aspect of it plays the part of end-to-end project organization.

Project Outline:

*Depending on the day, you might perform the following, one+ tasks, with an example of each:*

* **Find an opportunity** — ex: you may notice a certain category of your company's product has low sales
* **Define the problem concisely** — ex: “the pants category has the lowest sales out of any category”
* **Asses possible impact**— ex: “pants make up 80% of our inventory, yet it’s our worst performing category in terms of sales”
* **Develop a solution** (*data science or mix of*) — ex: the pants category was incorrectly categorized because it didn’t discern between shorts and pants properly, so the inventory was incorrectly classified in ‘all-other’, and people did not expand that category on the homepage. This incorrect classification was because the company was using a homemade rules-based solution. The solution is a decision tree classifier categorization.
* **Map out what is needed from others**— ex: you will need certain data like a description column in a database table to use as a model feature that will help the model classify correctly, so you will work with the data engineer to come up with a process of ingesting product data
* **Test the solution locally/dev environment**— ex: create an end-to-end process of ingesting a dataset, training and testing the model algorithm, and deploying the model endpoint so that it can be used by a service that automatically classifies any new, incoming inventory, as well as reclassifying ad-hoc, incorrectly categorized items. You will also ensure that the solution is actually better by proving it with real data, and that the machine learning operations process works as well.
* **Test the solution based on KPIs in production** — ex: you can AB Test your data science solution using KPIs like ‘pants sales’ for example, to see if the expected impact actually occurred. You may work with a separate AB Testing specialist at your company or perform this yourself.
* **Assess the actual impact** — ex: relay your findings from the test to stakeholders so that everyone is aware of the solution’s results.
* **Go forward (*or not*) with the solution!**— ex: depending on if your test was successful, you will execute your production-ready solution to all of the items moving forward. If the expected outcome did not occur, you could iterate on the solution based on those findings appropriately — maybe you overfitted your model, or need to train with more data so your model generalizes better, for example.

These main bolded points usually can account for most of the process you would see on a day-to-day basis depending on where you are at with your project. You might also be working on one+ project at a time. You might also be more involved with working with more stakeholders and executives at your company in a senior role.

**Summary and Personal Thoughts**

Every company has its differences and every role has its differences. However, there are still commonalities between senior data science roles. To summarize, the main takeaway is that senior data science positions do all that a normal data science position entails, but they also focus on the project from end-to-end more and act as a product manager for that project, entailing more responsibility in the process as a whole.

***What I learned from being a senior data scientist?***

The main things I learned as a senior data scientist are the importance of:

* Communication
* Prioritization
* Willingness to pivot

In the senior position, you will have more interaction with product managers and company executives, so being able to communicate clearly and efficiently is a must. Next, prioritizing your tasks and main data science projects is incredibly important because you will find that there is this unlimited amount of work you can do, however, it is key to understand how one task or project compares to another. Lastly, even as you plan your roadmap, you will have to be used to pivoting to a different project as priority and urgency can change around a certain topic. These three facets of the role are especially prevalent in the senior position because you not only serve as the subject-matter expert, but you also tend to serve as the leader of the data science space in general in your company as well.

***What surprised me and what motivates me?***

The biggest thing that surprised me about the senior position is that you will not be doing as much data science as you would expect. Instead, there are other parts of the business that are just as important, like what I highlighted above that can take quite a bit of time out of your day.

What motivates me is seeing the impact the senior position has on the business, as making a case for a certain data science project backed by a data-driven strategy and leading it from end to end, is both important and empowering.

*The focus in more on the strategy, and here is what we discussed:*

Responding, Planning, and Meeting Updates

Expected Data Science Work

I hope you found my article both interesting and useful. Please feel free to comment down below if your experiences are the same or different as a senior data scientist. Why or why not? What other things do you think should be discussed more, including more pros and cons? These can certainly be clarified even further, but I hope I was able to shed some light on what to expect in this position.

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