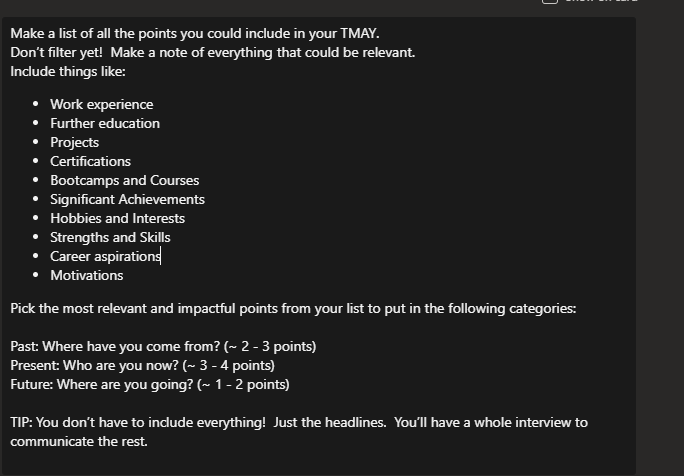
**TMAY - Tell Me About Yourself**



1. **Work Experience:** Data Consultant, Business Analyst, Intern Data Analyst, Intern Office Administrator, Pier Operative, Mathematics Tutor
2. **Further Education: A-Levels(A\*,A,C)**
3. **Projects:** 
   1. At my previous job, the main coding language that was being used was SQL and so given that I had basic knowledge of python, I took the initiative of creating demo dashboards for the company I was working with, in which it would demonstrate to a potential client, the tools and services provided within the company.
   2. As part of an internal project, I’ve automated model processes, in which I’ve reduced the need of any manual interaction. The model already built in required me to ingest data on a daily basis, validate this data against previous day data and ensure the differences meet specific thresholds, then moving this to the live environment all was done manually. Creating stored procedures using SQL, I ensure to automate these processes and create error conditions if they do not match the criteria.
4. **Certifications:**
5. **Bootcamps & Courses:**
   1. Aiming to do the Microsoft Fabric Data Engineering
6. **Significant Achievements:** 
   1. First Class Honours in Mathematics with Statistics from King’s College London
   2. National Romanian Gold Medallist in Mid-Distance running from the age of 10- 14
7. **Hobbies and Interests**
8. Enjoy doing strength training and cardio workouts like swimming, running, hiit workouts
9. Watching action related films, listening to podcasts: Diary of a CEO, Jay Shetty, people’s experience
10. **Strengths & Skills:**
    1. Resilient
    2. Solid communications skills
    3. Analytical mindset
    4. SQL, Basic Python
    5. Data Manipulation using SQL,Python
    6. Data querying
11. **Career aspirations**
    1. Experienced data analyst
12. **Motivations**
    1. Bridge the gap between technical expertise and real-world business projects.

**Where have you come from?** I'm Madalina. I’m originally from Romania and moved to the UK to pursue studies and career. I studied Mathematics with Statistics and graduated with First Class Honours from KCL. Shortly after, I joined a FTSE-100 company as a data consultant~~, where I maintained and developed activity-based costing models~~. Here I worked with automating SQL workflows and built demo dashboards that helped the business **generate new leads**. Here I had the opportunity to take on **leadership responsibilities and pitch a business case** that was used improve reporting processes and saw its **deployment into production**.

Outside of work, I am quite active, I enjoy running, swimming and strength training. I was also a National Romanian Champion in 800m which instilled a strong sense of **discipline and resilience**—qualities I apply every day into my professional life.

**What are you looking for now?** Now I am here at Sparta Academy, where I took part in various different tech projects that sharpened my technical and project skills and my goal now is to use these skills contribute to real-world business problems ~~where I can continue to~~**~~translate complex data into meaningful insights.~~**

**Why data?** My passion for data began during my time at King's, where I conducted a statistical modelling project that used advanced analysis to predict wheat species based on multiple variables. What fascinated me was how every variable was somehow connected and there was data to prove it! Since then, I’ve applied that mindset across projects, and I’ve found that working with data constantly challenges my curiosity and creativity.

**Example of using data in my daily life**

I’ve started using data in my personal life as well—not just to analyse systems, but to **build confidence and track growth**. Inspired by Leila Hormozi’s youtube video about using data to fuel self-belief, I now track small habits daily, like reading, coding, or exercising. There are days I miss a task, but the **cumulative data** reminds me of how far I’ve come.

**REST APIs – Using GET Requests to Fetch Pokémon Data via REST API**

* REST stands for Representational State Transfer which allows software systems to **communicate over the web** using HTTP methods.
* API are just a set of rules that are used to allow them to communicate, a few of these methods are GET, POST, PUT, PATCH, DELETE,

Particularly, I made use of the GET API Call throughout the Pokemon project. I’ve used this GET method using the requests library to retrieve Pokémon ability data from the PokeAPI, a public REST API.

The API responded with a big list of JSON data which I then processed and loaded into a dataframe.

Challenges: nested data, dictionary inside dictionary, which meant I had to create another piece of code that will retrieve the specific data.

Advantages: easily integrable as it makes it easy to use in scripts and applications, for example using PUT Requests to update a dashboard in a loop - > easy to automate workflows.

Statelesness –server doesn’t remember anything about previous requests and so no memory is stored on the server which makes also easier to distribute across multiple servers

Scalable – add more servers without worrying about session management.

FEEDBACK:

GOAL: DEMONSTRATE YOUR EXPERIENCE, PROOF THROUGH EXPERIENCE, STORY TELLING

GENERAL

Diagrams, short bullet points. Represents you. ‘I am a data engineer’ change that. You are a data consultant and have the capabilities to do these things. Not ‘I want to be’.

OTHERS

* Keep it short. Don’t overwhelm yourself
* Don’t use ‘we’ use ‘I’
* No bullet points, how to gain the audience?? Put a simple ERD, show example, but add relationship with the crow
* Arrow to show how the data goes, make more clear, make a diagram make engaging
* GIVE MORE STORYTELLING
* Bring out more excitement.

ME

* Text heavy, too technical, nice example to show visually, difficult working with poke api schema and do transformations. Good to speak more about why they benefit rather than explain just what they are. Give an example to show difficulties with the api schema. Show more arrows/annotations
* Keep the tech, have annotations, say ‘I’ more than ‘you can’
* DRIVE THE OVERALL POINTS OF THE PROJECT.
* OVERALL GOOD !!!!!!! LOVE YOU LOVE YOUUUU

But other APIs are very useful to be used as well.

What do I need to do?

* Add diagrams/annotations - done
* Make story telling - done
* Explain difficulties and benefits of using them

One of the most important skills I developed during my time at Sparta was working with **Entity Relationship Diagrams**, or ERDs. It’s a fundamental part of planning any relational data system because it ensures your structure is scalable, normalized, and logically sound.

In the Pokémon project I worked on with a few other members of the team, we designed an ERD to show how data from multiple API endpoints would be structured in a relational format. I created core tables for characters, abilities, and types—and then identified that some relationships were **many-to-many**, which meant I needed to create **junction tables** like characters\_abilities and characters\_types.

I made sure each table had a clear **primary key** and used **foreign keys** in the junction tables to maintain relationships between them. I also used consistent column naming—like character\_id and ability\_id—to avoid confusion later when writing queries or loading data into a database.

One challenge I faced was understanding how these relationships play out in a real project. Knowing the difference between **one-to-many** and **many-to-many** was essential when deciding whether a junction table was needed. Another challenge was around **ID consistency**—the Pokémon API had nested endpoints, and in some cases, I had to make additional API calls to retrieve the correct IDs and ensure they matched across tables.

To address this, I wrote additional Python functions to automate ID extraction and used logging to verify that every row had the right foreign key relationships. Once the structure was in place, I used Pandas to transform the data into clean DataFrames and loaded them into SQL-ready tables.

Now, I feel more confident in designing ERDs from scratch and using them to plan out relational databases that are normalized and efficient. I understand how to map real-world data problems into relational structures and how to spot potential issues early—like redundancy or unclear relationships—before they become technical debt.

This is a skill that’s especially useful in client-facing environments, where clarity, consistency, and scalability are essential. Whether building a reporting database or designing a data warehouse, starting with a strong ERD ensures that everything built on top of it is reliable and future-proof.

Also having to work in an **Agile setup**, with clear roles and GitHub for version control.

This project is highly relevant to a client-facing role because it shows I can:

* Interact with external APIs
* Handle complex data relationships
* Normalize messy JSON into relational models
* Spot and fix edge cases, such as missing values or inconsistent keys
* Collaborate within a team to deliver clean, production-ready code

Going onto a client site, I now feel confident discussing **data ingestion strategies**, explaining an **ERD**, and troubleshooting issues like ID mismatches or schema design decisions. It also made me more aware of **how important it is to get the foundations right**—because downstream processes like analysis or BI dashboards rely on clean, well-structured data.

One part I’m proud of was building a **junction table** that linked Pokémon to their abilities.

A screenshot of a graph

Description automatically generated

High performance athlete-mid distance runner, evidence of a skill, always been driven

* Include team leader opportunities,
* Include Mapogos experience, how you have scaled up this SME
* Remove bridge the gap between technical expertise and real-world business
* What do you want
* Remove problem solving, drive unless evidence, provide evidence

Staying active whether that’s going to the gym, running/ swimming gives me the opportunity to self-discipline, stay productive and to sharpen my mind. Actively listening to podcasts to improve creative, and analytical skills, podcasts with Diary of a CEO, Jay Shetty..

**Future: Where are you going?**

To become a successful data engineer, and Become a good data leader, whether that’s senior consultant or data scientist and be able to apply these skills confidently within the business sector project manage within big data and create my own portfolio to apply to all sectors.

**Questions to consider:**

Tell me about yourself?

Why do you want to be a Data Engineer?

Why would you make a good Data Engineer?

* Really enjoy solving problems, in my spare time play chess, at sparta filled the gaps and learned to become a better consultant.
* Make unstructured, ugly data into a pretty insightful reports

What skills are most important for a Data Engineer?

* Give numbers meaning,

What are your weaknesses?

What is your biggest strength?

What are your career aspirations?

Where do you see yourself in 5/10 years?

What have you covered in your training so far?

Can you explain your latest project you have done at Sparta?

A sheet metal manufacturer wants to perform analysis and find potential trends on their data, how would you consult them?

-find out about company and manufacturer and business a whole, output, customers their shipping, competitors.

1. Crucial to know what are they hoping to achieve? (reduce waste, forecast demand??)

2. Explore what data they currently collect and asses (operations data/supply chain/sales data)

3. Identify key analytical angles (Cost &Waste analysis/customer & product profitability)

What makes a good data engineer?

A strong data engineer possesses

* strong technical skills = programming skills such as **Python and SQL,** a strong understanding of **databases and data modelling** using tools like **MySQL, NoSQL, and MongoDB**. **ETL pipeline development** and **data warehousing**.
* soft skills and a growth mindset = strong data engineer is a **problem solver**, a **collaborative team player**, has high attention to detail and is **committed to continuous learning** to stay aligned with industry trends. Version control using tools like **Git** is also essential for managing code and deployments effectively.

During my time at **Sparta**, I had the opportunity to develop and apply these skills through various team-based projects. I contributed to the development of **ETL pipelines**, including **extracting data from AWS S3**, **cleaning and transforming it using Python**, **normalizing the data**, and **loading it into a SQL database**. Throughout these projects, we adhered to **Agile methodology**, collaborated effectively using **GitHub for version control**, and ensured timely delivery of tasks. These experiences have helped shape me into a well-rounded and capable data engineer.

https://sqlfiddle.com/sql-server/online-compiler?id=075953b3-7ac2-4cf9-9b17-6d0b8209da89