

## Introduction to the Course 7 capstone project

### Welcome to the capstone project!

Congratulations on reaching the final project of the Advanced Data Analytics certificate program. In this course, you'll have an opportunity to use skills you developed throughout the entire advanced data analysis program within a single project that is designed to closely simulate the type of work conducted by data analytics professionals. The capstone project is optional, and choosing whether or not to complete it will not affect your ability to receive your certificate. However, it is highly recommended! After completing the capstone project, you will have an entire data analysis project from start to finish, showcasing your skills that you can share with prospective employers.

What is the capstone project?

The capstone project is a way for you to apply and assess your newly acquired data analytical skills. In this project, you'll take on the role of a newly hired data analytics professional. Within the capstone project scenario, you'll be responsible for tasks like setting up your teams' workflow, creating a project proposal, carrying out EDA, and building models. Along the way, you'll interact with a variety of internal and external stakeholders, sharing your insights and final recommendations through an executive summary.

The capstone project: What to expect

At the end of each course, you were given an opportunity to use your newly acquired skills within an end-of-course project. Each course's end-of-course project built on the one before, while breaking down the entire data analysis process into smaller segments. This allowed each end-of-course project to isolate different skills and focus on practicing and reinforcing specific data tasks.

However, in the capstone project, the entire data analysis process is covered by a single project scenario with one project deliverable that showcases the skills you've learned across the certificate. To complete this project, you will begin by familiarizing yourself with the capstone project scenario. Next you'll determine the necessary tasks, and decide the order in which they need to be carried out.

Throughout the capstone project, you will use the skills and experience that you acquired in each course and the accompanying end-of-course projects. The capstone project scenario will offer opportunities to:

Gather information pertaining to a business problem or an organizational inquiry

Answer questions relevant to coding with Python

Conduct exploratory data analysis

Build statistical data models and machine learning models

Consider ethical issues related to the task

Present your findings for a general audience of stakeholders

After completing your capstone project, you'll be given the opportunity to assess your work through a detailed rubric, designed to offer you valuable feedback. Along the way, you are encouraged to access the [discussion forums](#) <sup>↗</sup> to share your overall strategies, ask questions, and encourage other learners who are working to complete their own capstone projects. (Please note that it's appropriate to share general project strategies, but not specific steps, processes, or documents!)

Capstone project scenario overview: Working for Salifort Motors

### **About the company**

Salifort Motors is a fictional French-based alternative energy vehicle manufacturer. Its global workforce of over 100,000 employees research, design, construct, validate, and distribute electric, solar, algae, and hydrogen-based vehicles. Salifort's end-to-end vertical integration model has made it a global leader at the intersection of alternative energy and automobiles.

### **Your business case**

As a data specialist working for Salifort Motors, you have received the results of a recent employee survey. The senior leadership team has tasked you with analyzing the data to come up with ideas for how to increase employee retention. To help with this, they would like you to design a model that predicts whether an employee will leave the company based on their department, number of projects, average monthly hours, and any other data points you deem helpful.

### **The value of your deliverable**

For this deliverable, you are asked to choose a method to approach this data challenge based on your prior course work. Select either a regression model or a tree-based machine learning model to predict whether an employee will leave the company. Both approaches are shown in the project exemplar, but only one is needed to complete your project.

The capstone project will provide you with valuable experience and data analysis examples that you can share with potential employers.

### Key takeaways

Your capstone project will enable you to apply your newly developed advanced data analytics skills and knowledge, demonstrate fundamental data analysis skills to prospective employers, and present what you have learned from the Grow with Google Advanced Data Analytics Certificate. Providing examples from projects such as the capstone project is an excellent way to showcase your data analytics abilities. The end results from the capstone project greatly strengthen your resume and make you a more competitive candidate for data analytics positions.