ESG

One of the more important areas of research in using ESG factors in quant models is that the materiality of factors differs by industry and even company. It is important to understand that over 40 years, companies in the S&P 500 have made a dramatic change in their balance sheets from 17% intangible assets to 84% intangible assets. Environmental factors are most important for companies with large hard asset infrastructure, such as airlines, utilities, energy and mining companies, and manufacturers. Tech companies will have a greater focus on social factors such as data privacy, while financials may have greater materiality on governance factors. Even within an industry, materiality can differ. For example, Disney and Netflix may both be in the entertainment sector, but environmental factors are much more important for Disney given their cruise line and theme park operations. ESG modeling is in its infancy, only scratching the surface of ideas and questions to be researched.

To avoid issues with overfitting and to improve out-of-sample statistical significance, it is important to pose an investment hypothesis before inspecting, or even acquiring, the data. Once you have an investment hypothesis, then go looking for the data. Ideas can come from anywhere, but often start through understanding and replicating academic papers.

Triangle Role

The team member in the triangle role is responsible for creating a simple machine learning model. Creating a simple model this early in the design process helps a team better understand where and how a machine learning model will fit into the project. This also grants more time to work out the specifics related to machine learning.

Keep the following questions in mind as the machine learning model is developed:

* Which model did you choose and why?
* How are you training your model?
* What is the model's accuracy?
* How does this model work?

The first segment is all about preparation, so a simple model will cover the first question—the type of machine learning model chosen and why. To get started, create a simple model that isn't concerned with accuracy. Basically, you want your model to take input data and return a label—and that's it!

Module 20 first deliverable: When it comes to the project, what are you most proud of accomplishing this week? (Hint: Keep these notes so you can discuss this in interviews.)

In keeping with the guidelines of the project, I took on the role of creating a mockup of a simple machine learning model for our team. This current model is designed to address the problem our project is addressing. As part of the class assignment, another team member presented our progress to the whole class including our mockup. The presentation was received well by our instructor and our group was described as having "overachieved" in this initial delivery of our project.