**PCA + SVM**

This week we introduced PCA and SVM. First, make sure you understand the following concepts from our model evaluation segment before moving forward.

* Can you think of an example where we would like to maximize precision over recall? What about recall over precision?

Here are some ideas you might want to try out when you are working on making your own models and evaluating:

* You can start by playing around with the walkthrough and seeing if different amounts of components to include might make a drastic difference for the SVM.
* You could also try and see if your cut down X\_train and X\_test do better with different models such as logistic regression after reducing the variances used to more relevant ones.
* You can also feel free to spend some time going back to tinker with models from the previous two weeks.
* Try out things on the heart failure dataset!

As a general figure, here is a research study that found the heart failure prediction accuracy of roughly 80% to 90% for cardiologists and family doctors: [Physician Prediction versus Model Predicted Prognosis in Ambulatory Patients with Heart Failure](https://www.jhltonline.org/article/S1053-2498(19)30973-8/pdf)

See if you can reach that 90% threshold!

Over the last few weeks, we’ve covered the basics of modelling, and then went forward with different approaches to our data, including models that are commonly used today, as well as how we can go about evaluating the performance of models. Hopefully you’ve found this pretty interesting!