***Interview questions***

**Give some situations where you will use an SVM over a Random Forest Machine Learning algorithm and vice-versa.**

(https://datascience.stackexchange.com/questions/6838/when-to-use-random-forest-over-svm-and-vice-versa)

**What is convex hull ?**

(https://en.wikipedia.org/wiki/Convex\_hull)

**What is a large margin classifier?**

**Why SVM is an example of a large margin classifier?**

**SVM being a large margin classifier, is it influenced by outliers?**

(Yes, if C is large, otherwise not)

**What is the role of C in SVM?**

**In SVM, what is the angle between the decision boundary and theta?**

**What is the mathematical intuition of a large margin classifier?**

**What is a kernel in SVM? Why do we use kernels in SVM?**

**What is a similarity function in SVM? Why it is named so?**

**How are the landmarks initially chosen in an SVM? How many and where?**

**Can we apply the kernel trick to logistic regression? Why is it not used in practice then?**

**What is the difference between logistic regression and SVM without a kernel?**

(Only in implementation – one is much more efficient and has good optimization packages)

**How does the SVM parameter C affect the bias/variance trade off?**

(Remember C = 1/lambda; lambda increases means variance decreases)

**How does the SVM kernel parameter sigma^2 affect the bias/variance trade off?**

**Can any similarity function be used for SVM?**

(No, have to satisfy Mercer’s theorem)

**Logistic regression vs. SVMs: When to use which one?**

( Let's say n and m are the number of features and training samples respectively. If n is large relative to m use log. Reg. or SVM with linear kernel, If n is small and m is intermediate, SVM with Gaussian kernel, If n is small and m is massive, Create or add more features then use log. Reg. or SVM without a kernel)

**What is the difference between supervised and unsupervised machine learning?**

***External Resources:*** 1.https://www.analyticsvidhya.com/blog/2017/10/svm-skilltest/