

# Machine Learning

## Video 116:

### Kernel Trick in SVM | Code Example

Example:

Code link:

<https://github.com/campusx-official/Support-Vector-Machines-SVM-/blob/master/Kernel%20Trick%20SVM.ipynb>

## Video 117:

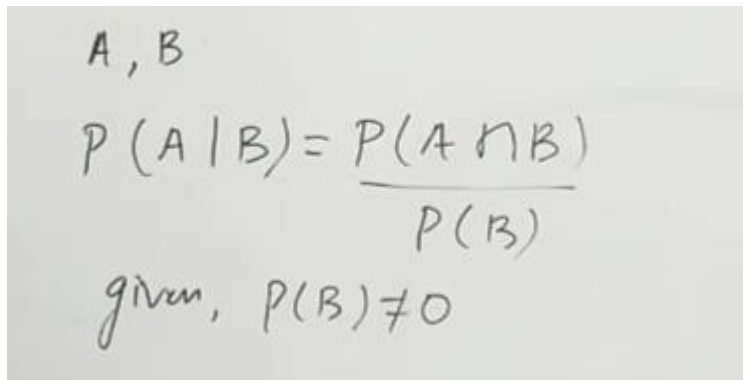
### Kernel Trick in SVM | Geometric Intuition

Nothing to be noted.

## Video 118:

### Naive Bayes Classifier | Part 1 | Conditional Probability

What is Conditional probability?



A, B

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

given,  $P(B) \neq 0$

Example:

$D_1, D_2$   
 $\{(1,1), (1,2) \dots (2,1), (2,2) \dots$   
 $(6,6)\} \quad (36)$

	$D_1$					
	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

**Video 119:**

**Naive Bayes Classifier | Part 2 | Independent Events in Probability**

## Independent Events

A, B

$$P(A \cap B) = P(A) \times P(B)$$

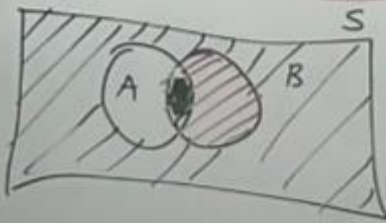
$$P(A|B) = \frac{n(A \cap B)}{n(B)}$$

①

$$P(A) = \frac{P(A \cap B)}{P(B)} = \frac{n(A \cap B)}{n(S) \times n(B)}$$

$$P(A) = \frac{n(A \cap B)}{n(B)}$$

②



$$P(A|B) = P(A)$$

**Video 120:**

**Naive Bayes Classifier | Part 3 | Mutually Exclusive Events**

A, B

$$P(A \cap B) = 0$$

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

$$P(A|B) = 0$$