Support Vector Machines (SVMs) use **kernels** to handle non-linear relationships by implicitly mapping data into higher-dimensional spaces. Choosing the right kernel can have a big impact on performance. Here are the most common SVM kernels:

1. **Linear Kernel** (Read More)
    - Pros
        - Fast and memory-efficient
        - Less risk of overfitting
        - Works well with many features
    - Cons
        - Cannot capture complex, non-linear patterns
2. **Polynomial Kernel** (Read More)
    - Pros
        - Can model interactions between features
        - More flexible than linear
    - Cons
        - Higher degrees can overfit
        - Computationally more expensive
3. **RBF (Gaussian) Kernel** (Read More)
    - Pros
        - Very flexible
        - Works well for many real-world problems
    - Cons
        - Sensitive to hyperparameters
        - Can overfit if γ is too large
4. **Sigmoid Kernel** (Read More)
    - Pros
        - Can mimic neural network decision boundaries
    - Cons
        - Not always a valid kernel for all parameters
        - Often performs worse than RBF