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Task – 6

Support vector machine (SVMs) are supervised learning methods for classification, regression and outliers detection effective in high-dimensional spaces. They rely on support vectors to define decision boundaries making them memory efficient. SVMs use various kernel functions for task customization. However, they risk overfitting when features out number samples and have high computational complexity for probability estimates. SVMs handle binary and multi-class classification using "one vs one" and "one vs rest" strategies and Support vector machine extends their use in regression tasks. proper hyperparameter tuning is crucial, especially for non linear kernels and large datasets increase computational demands.