

Software Defined Radio Based Drone Detection using Machine Learning Algorithm

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Abstract

In this new era, misuse of drones and harmful acts that can be done using drones make it hard to detect and classify drones effectively due to the larger bandwidth and real-time processing. The purpose of this research is to find a better machine-learning algorithm to detect and classify the emitting signals from a drone or a remote controller. We built multiple classification models and trained them over the dataset we obtained using Software Defined Radio (SDR) and drone remote controller. We have compared the performances of all these models and logged their results in terms of prediction accuracies. Based on the accuracy results, K-Nearest Neighbor classifier has given the highest accuracy among all other models.

Keywords: *RF signal classification, Detection, SDR, Machine learning model, Neural network, K-nearest neighbor, Feasibility*