CYSE 587 (Spring 2025)

Cyber Security System Engineering

Lab1: ADS-B Signal Spoofing and Jamming

Team Securetight

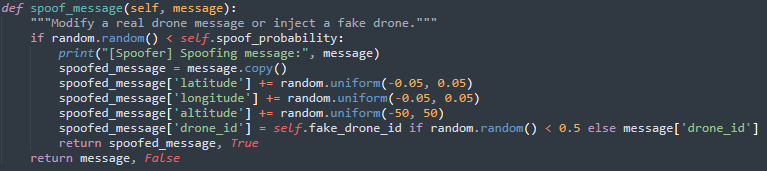
1. Tasks to perform

ADS-B spoofing involves broadcasting fake aircraft location signals to deceive aviation systems. Attackers can create nonexistent aircraft or deceive real aircraft positions, potentially causing dangerous confusion in air traffic management and increasing collision risks.

The task is to enhance the channel to be more realistic, implement gradual spoofing attack, and perform various jamming attacks in the given simulation source code.

1. Implementing Gradual Spoofing Attack

A gradual spoofing attack involves slowly and incrementally modifying aircraft position data over time, making the false data harder to detect compared to sudden position changes. The attacker gradually shifts reported coordinates to make the deception appear more natural and bypass anomaly detection systems. The given implementation performs the spoofing of position in a random way.



To deceive anomaly detection system, the modification of the coordinate should be more gradual.