

Research Project Title

Data Hiding-based Lightweight Authentication in the Multi-UAV Network Domain

Details of Primary Supervisor

1. Name: Dr. Dilshani Hansika Mallikarachchi
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4. Research interests: Data Hiding/Steganography, UAV Network Communication, Physical Layer Security

Details of Research Project

1. Duration: 2 years
2. Monthly allowance: RM2300/ month
3. Summary: Drones, or Unmanned Aerial Vehicles (UAVs), have become essential in many fields, including search and rescue, disaster response, traffic monitoring, and package delivery. When multiple drones are used together, they form a network known as a Flying Ad Hoc Network (FANET), allowing them to communicate with each other seamlessly without relying on a fixed infrastructure. However, this communication is vulnerable to security threats such as interception and tampering, making it crucial to develop robust security measures. Our research aims to improve the security of drone communications using lightweight and energy-efficient techniques. Specifically, we will explore data hiding methods to secure the information transmitted between drones. Data hiding involves embedding hidden information within regular transmission signals, making it harder for attackers to detect and intercept.
4. Location: Xiamen University Malaysia

GRA Requirements

Number of Master places available: 2

1. The candidate must be enrolled in XMUM Master's programme.
2. The candidate must possess a Bachelor's degree in related disciplines (Computing/ Electrical and Electronic Engineering)
3. Has strong research interest in the cybersecurity field.