

LBS COLLEGE OF ENGINEERING KASARAGOD

Department of Computer Science and Engineering

CSQ 413 : SEMINAR

TITLE : Wireless Spy Camera Spotter System With Real-Time Traffic Similarity Analysis and WiFi Signal Tracing

ABSTRACT

The increasing prevalence of hidden wireless cameras has become a serious privacy threat due to their compact size, affordability, and ability to stream high-quality video over WiFi networks. Traditional detection methods—such as hardware-based scanners, channel state information (CSI) analysis, and machine learning models—often require expensive equipment, complex calibration, or large training datasets, making them impractical for real-time use.

This study proposes a Wireless Spy Camera Spotter System that enables real-time detection and localization of hidden WiFi cameras using only off-the-shelf devices like laptops or Raspberry Pi. The system employs the Nilsimsa hash algorithm to analyze packet similarity between transmitted data flows and detect streaming patterns typical of spy cameras. Once detected, Received Signal Strength Indicator (RSSI) values are analyzed to approximate the camera's physical location, achieving localization accuracy within 30 cm. The proposed method is lightweight, training-free, and cost-effective, offering a practical solution for enhancing personal and public privacy protection in environments such as hotel rooms, offices, and rental spaces.