M S RAMAIAH INSTITUTE OF TECHNOLOGY

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January 2016 to May 2016

Department of Computer Science & Engineering

**FINAL YEAR PROJECT**

**INTRUSION DETECTION IN WIRELESS NETWORKS**

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**ABSTRACT**

The networking revolution has finally come of age. Wireless technology is advancing and its popularity is increasing at a very rapid rate. The rapid proliferation of wireless networks has changed the landscape of **network security**.

The possibilities and opportunities to the changing internet computing are limitless; so are the risks and chances of malicious intrusions. It is very important that the security mechanisms of a system are designed so as to prevent unauthorized access to system resources and data. However completely preventing breaches of security appear, at present, unrealistic. We can, however, try to detect these intrusion attempts and is known as **Intrusion Detection**.

A wireless network has multiple nodes which means there can be multiple point of attacks. There are various mechanisms for dealing with different types of intrusions. One such algorithm is the **IDEAS algorithm** which can be used to secure the wireless networks.

The traditional way of protecting networks with firewalls and encryption software is no longer sufficient and effective. With the advancement of technology, manual detection and prevention of intrusions is time consuming and exhausting. **Artificial** **Intelligence** techniques such as **Machine** **Learning** and **Genetic** **Algorithms** for testing new rules for intrusion detection can be used.

***Keywords: Network Security, Wireless Networks, Intrusion Detection, Artificial Intelligence, Security Mechanisms***

***Abbreviations :*** ***Intrusion Detection based on Emotional Ants for Sensors (IDEAS), Genetic Algorithm(GA)***