A Reliable Fuzzy Websites' Classification System using Webpage Source Code's Phishing Characteristics

Rania M.Elmassry

MSC. Student, College of Computer and Information Technology
Arab Academy for Science and Maritime Transport, Cairo, Egypt
E-mail: rania_za@yahoo.com
Tel: +202-01001602648

Essam M. Hamed

Associate Professor, College of Computer and Information Technology
Arab Academy for Science and Maritime Transport, Cairo, Egypt
E-mail: dodessammisr@gmail.com

H.E.A.Ibrahim

Associate Professor, Department of Electrical and Computer Control Engineering
Arab Academy for Science, Technology and Maritime Transport, Cairo, Egypt
E-mail: hibrahim_eg@yahoo.com

Abstract

Phishing problem is a semantic attack which targets the user rather than the computer. Since phishing is joining technical and social engineering problems, there is no single solution for the entire problem. To evaluate the phishing website accurately is a complex task. Till now, various solutions have been proposed and developed to address this problem. Most of these approaches giving rise to a large number of false positives. Some advance, scrutinized approaches are strongly needed for phishing problem specially, in the sensitive sites like national security agencies, military, and finical sites. The proposed system is a reliable effective phishing classification system combined the capabilities of fuzzy reasoning in measuring imprecise features of any site, with the capability to classify the phishing fuzzy rules. The system was developed, tested by various sites types (phishing, legitimate, and suspicious). The results obtained are promising and showed that the proposed fuzzy classification system can provide an effective help for websites online classification. Also, the proposed system can be used effectively to monitor the site legitimately percentage.

Keywords: Phishing, webpage source code, classification, fuzzy logic, fuzzification, rule-based system, defuzzification, social engineering.