



الدراسات العليا والبحث العلمي



برامج الدراسات العليا الأكاديمية والتنفيذية

الماجستير الأكاديمي في الأمن السيبراني

ماجستير الذكاء الاصطناعي التنفيذي



برنامج الماجستير الأكاديمي في الأمن السيبراني



الرؤية

التميز في المجالات التعليمية والتعليمية والبحث العلمي والخدمات الاجتماعية في مجال الامن السيبراني وتطبيقاته محليا واقيمياً.

الرسالة

إعداد جيل من الخريجين في مجال الامن السيبراني المؤهلين تأهيلاً عالياً لتلبية احتياجات سوق والعمل والمساهمة في خدمة وتنمية المجتمع المحلي.

يقع برنامج ماجستير هندسة وإدارة الجودة في عمق البرامج الوطنية المعتمدة لتحقيق الرؤية السعودية 2030.

الأهداف

1. تزويد الطالب بالمعارف والمهارات المتقدمة مجال الامن السيبراني.
2. إكساب الخريج المعارف والمهارات المرتبطة تطبيق مبادئ التفكير التحليلي والنقدي لكل من أمن الشبكات والكمبيوتر.
3. تزويد الطالب مهارة تحليل نقاط الضعف المختلفة للشبكات والأساليب المستخدمة لاختراق أمن الأنظمة واستخدام الطول الشاملة للحد من هذه الاختراقات.
4. الانخراط في التعلم المستمر لمساهمة أعضاء المجتمع داخل وخارج النطاق التقليدي للشبكات وأمن المعلومات.
5. التحلي بالمعايير المهنية والأخلاقية العالية ليصبح الخريجين قادة منتجين في مجال الأمن السيبراني.
6. إعداد كوادر وطنية مؤهلة للعمل في مجال الأمن السيبراني.



برنامج تطوير الصناعة الوطنية والخدمات اللوجستية



برنامج جودة الحياة 2020



برنامج التحول الوطني 2020

برنامج الماجستير الأكاديمي في الأمن السيبراني

إنطلاق البرنامج في 2020

بعض الأرقام عن البرنامج

4 دفعات متتالية

(2020,2021,2022,2023)

إجمالي عدد الطلاب والطالبات = 118

العدد الخريجين = 71

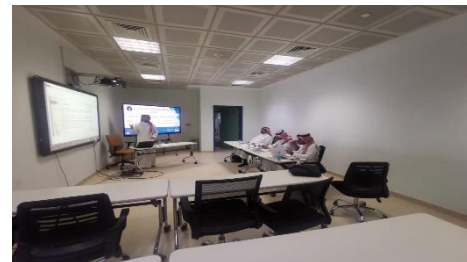
مصدر دخل للجامعة من خلال رسوم التسجيل

علاقات شراكات إستراتيجية بين القائمين على البرنامج ومؤسسات عالمية

مقومات التميز في البرنامج



برنامج الماجستير الأكاديمي في الأمن السيبراني مناقشات رسائل ومشاريع التخرج (71 رسالة ومشروع بحثي)





برنامج الماجستير الأكاديمي في الأوراق المنشورة في مجالات علمية محكمة

IJACSA International Journal of Advanced Computer Science and Applications,
Vol. 16, No. 11, 2023

A Smart Application for Friday's Sermons Analysis

Abdulaziz A. Alfahhamri¹, Tariq S. Almuhrayziq², Yousef K. Qawqzeh³

¹Department of Information and Computer Science, College of Computer Science and Engineering,
University of Haifa, Haifa, KSA
²Department of Computer Science and Engineering, Hatz Al-Banat University, Hatz Al-Banat, KSA

Summary

Regulations and rules are essential in all aspects of life and they not only help regulate society but also help citizens defend themselves from cyber threats. However, law enforcement has asserted that crime which is a violation against laws of the society is managed by the human nature and hence the society can never be completely free from it. Modern society is characterized by increasing levels of risk discovered by internal and external security threats. In this regard, security driven by technology is increasingly being used by government, corporate bodies, and individuals to minimize and reduce risks. This work proposed a system that will automatically suggest a sermon note for each Friday's sermon. The authorized Friday preachers (Imam) will receive the proposed title among its keywords in which they will be approved into the sermon text. This system will then receive the updated sermon text to be analyzed for the purpose of accepting or rejecting the updated sermon by each and every Imam. The system will be utilized for sermon promotion based on security concerns in each area. It will utilize the analysis of Friday's sermons text by developing a customized machine-learning algorithm that discovers the hidden semantic structure of such documents using topic-modelling algorithm. In particular, the Latent Semantic Analysis algorithm. If the sermon scores more than 70% in applying the keywords, it will be accepted, otherwise, it will be rejected.

Keywords: Sermon Tracking, Sermon Management, Topic Modeling, Security Assurance

1. INTRODUCTION

Enhancing Data Security in the Cloud Platform by Encrypting the Used Key Dynamically

Layana Khalid Abdallah Almarzuqi
Information and Computer Science Department
College of Engineering and Computer Science
University of Haifa
layana2012@hotmail.com

Evertha A. Alkhalil
Information and Computer Science Department
College of Engineering and Computer Science
University of Haifa
k.alkhalil@uoh.edu.sa

Abstract—The smart city is a basic part of the future. It has many advantages on different levels. However, the most concerning aspect is the sensitivity of its data, which faces several risks that could harm individuals' lives. This paper focused on the strategy for the prevention and handling of the encryption key. In addition, to propose an approach that aims to enhance the application of encryption in the cloud platform, which is one of the technologies that are used in the data of smart city, since most studies indicated that encryption is the most recommended security mechanism. The current paper provided a brief description of the smart city and its related areas. The experimental method was adopted, and the experiment of the study included two stages, which are testing and building. And through the experiments, the performance of AES (Advanced Encryption Standard) and Blowfish encryption

provided the necessary services which are needed to obtain smartness in living, it has negative consequences on privacy [1]. Additionally, some of the gathered data is extremely sensitive such as users' Identity (ID), their habits, their exact location, patient and doctor records, personal and financial data [2]-[11]. This means that the cyber security in the smart city environment is a crucial aspect that must be particularly considered, because as the usage of the internet grows, more information will be gathered from people, which makes the requirement for the security greater. The security can be ensured through the utilization of various approaches including encryption, authentication, and firewalls [12]. There are many serious risks that might happen in smart

6 أوراق بحثية



A Fast Multicore-based Window Entropy Algorithm

Suha S.A. Shokr, Hazem M. Bahig
Information and Computer Science Department, College of Computer Science and Engineering
University of Haifa, Haifa 81481, Saudi Arabia

Abstract—Malware analysis is a major challenge in cybersecurity due to the regular appearance of new malware and an effect in cyber-space. The existing tools for malware analysis mainly involve signature-based, heuristic-based, and heuristic-based, and potential consequences of malicious software. An entropy method is one of the techniques used to analyze and detect malware, which is defined as a measure of information encoded in a series of values based upon the probability of those values appearing. The window entropy algorithm is one of the methods that can be applied to calculate entropy values in an effective manner. However, it requires a significant amount of time when the size of the file is large. In this paper, we solve this problem in two ways. The first way of improvement is determining the best window size that leads to minimizing the running time of the window entropy algorithm. The second way of improvement is by parallelizing the window entropy algorithm on a multicore system. The experimental studies using artificial data show that the improved sequential algorithm can reduce the window entropy method's running time by 70% on an average. Also, the proposed parallel algorithm outperforms the modified sequential algorithm by 77% and has superior linear speed-up.

Keywords—Entropy, window method, malware analysis, parallel algorithm, multicore

I. INTRODUCTION



Hybrid Techniques of Analyzing MRI Images for Early Diagnosis of Brain Tumours Based on Hybrid Features

Radwa Abdulkareem Mohammed^{1,*}, Ebrahim Mohammed Senan^{2,3,4,5}, Talal Sarheed Alshammari⁴, Abdulrahman Altreshidi^{4,6}, Abdulaziz M. Alayba^{4,6}, Meshari Alzami^{4,6}, and Afrah N. Alsaqi⁴

- Department of Computer Engineering, College of Computer Science and Engineering, University of Haifa, Haifa 81481, Saudi Arabia
- Department of Computer Science & Information Technology, Dr. Babashah Ambebaik Marathwada University, Aurangabad 431004, India
- Department of Artificial Intelligence, Faculty of Computer Science and Information Technology, Al-Balqa Applied University, Amman, Jordan
- Department of Information and Computer Science, College of Computer Science and Engineering, University of Haifa, Haifa 81481, Saudi Arabia
- Correspondence: h.abshammari@uoh.edu.sa (E-MAIL); senan770@gmail.com (E-MAIL)



برنامج برنامج ماجستير الذكاء الاصطناعي التنفيذي



البرنامج والرؤية السعودية 2030

تقدم كلية علوم وهندسة الحاسب الالي بجامعة حائل برنامج ماجستير الذكاء الاصطناعي التنفيذي للمساهمة في تحقيق التطلعات الوطنية فيما يتعلق تطوير في الجانب الرقمي اتساقا مع رؤية ٢٠٣٠. ويسعى البرنامج إلى المساهمة في الحاضر الرقمي وبناء مستقبل يعتمد على الذكاء الاصطناعي يساهم في تعزيز مكانة المملكة في مجال التقنية والابتكار في ظل عصر الابتكارات العلمية والتقنية غير المسبوقة



مقومات التميز في ماجستير الذكاء الاصطناعي

إنطلاق البرنامج في 2019

البرنامج معتمد من وزارة التعليم
ومصنف في الخدمة المدنية

ثلاث دفعات (2019,2020,2023)

إجمالي عدد الطلاب والطالبات = 49

إجمالي عدد الخريجين = 35

مصدر دخل للجامعة من خلال رسوم
التسجيل

علاقات شراكات إستراتيجية بين القائمين
على البرنامج و مؤسسات عالمية

برنامج برنامج ماجستير الذكاء الاصطناعي التنفيذي

مناقشات مشاريع التخرج
(أكثر من 35 مشروع بحثي)



الأوراق البحثية المنشورة في مجلات علمية محكمة



جامعة حائل University of Ha'il

DCSNIS International Journal of Computer Science and Network Security, VOL.22 No.1, January 2022 93

Academic Registration Text Classification Using Machine Learning

Mohammed S. Alhawas and Tariq S. Almurayziq

University of Ha'il, Ha'il, KSA

Summary Natural language processing (NLP) is utilized to understand a natural text. Text analysis systems use natural language algorithms to find the meaning of large amounts of text. Text classification represents a basic task of NLP with a wide range of applications such as topic labeling, sentiment analysis, spam detection, and more directions. The algorithm can transform user's unstructured thoughts into more structured data. In this work, a text classifier has been developed that uses machine algorithms and regression trees as input, analyze its content, and then automatically assign relevant tags such as admission, graduate school, and registration.

In this work, the text classifier algorithm support vector machine (SVM) and K-nearest neighbor (KNN) algorithms are used to develop the job-oriented classifier. The obtained results showed that the SVM classifier outperformed the KNN classifier with an overall accuracy of 93%. In addition, the results showed that the SVM was 0.0064 faster than the KNN classifier. Based on the obtained results, the SVM is used to implement the academic text classification in this work.

Keywords: NLP, Deep Learning, Text Classification, ML, DDT.

1. Introduction

280 DCSNIS International Journal of Computer Science and Network Security, VOL.22 No.9, September 2022

Face Recognition Using a Facial Recognition System

Tariq S. Almurayziq¹ and Abdullah Alzaan²

Department of Information and Computer Science, College of Computer Science and Engineering, University of Ha'il, Ha'il, 81481, Saudi Arabia

Summary Facial recognition system is a biometric manipulation. Its applicability is simpler, and its work range is broader than fingerprints, iris scans, signature, etc. The system utilizes two technologies, such as face detection and recognition. This study aims to develop a facial recognition system to recognize person's faces. Facial recognition system can map facial characteristics from photos or videos and compare the information with a given facial database to find a match, which helps identify a face. The proposed system can assist in face recognition. The developed system records several images, processes recorded images, checks for any match in the database, and returns the result. The developed technology can recognize multiple faces in live recording.

Keywords: Facial recognition, face detection, feature extraction, person's identity.



Fig. 1 Steps of face recognition.

Researchers have discovered that artificial intelligence (AI) sensors, trackers, and data analytics are used in smart

DCSNIS International Journal of Computer Science and Network Security, VOL.22 No.1, January 2022 679

A Smart Application for Friday's Sermons Analysis

Abdulhaziz A. Alshammari¹, Tariq S. Almurayziq², Yousef K. Qawaqneh³

¹Department of Information and Computer Science, College of Computer Science and Engineering, University of Ha'il, Ha'il, KSA
²Department of Computer Science and Engineering, Haif Al Batin University, Haif Al Batin, KSA

Summary Real-time and safe are essential to all aspects of life and they are both low cost while to drive, and have others about content and literature regarding security awareness and technology-based content creation methods applications. The main aim is to provide a proposed solution towards handling content delivery associated security. In addition, the key challenges surrounding the successful implementation of the proposed security awareness systems are addressed.

Problem Statement

As there are a variety of scenarios that are received by the security inside Saudi Arabia, several security concerns are derived from the current situation. For example, some threats are not accustomed to the proposed topics for Friday's sermons. Often may deliver hate, illegal, or unprofessional messages to the audience. Security agencies inside Saudi Arabia need to monitor and control sermons content delivery using a reliable tool. In addition, up-to-date knowledge, there is no automated technological-based tool for handling such sermons. Therefore, this research project tries to overcome such issues by introducing an ML algorithm that analyzes content and produces guided instructions to humans towards sermon delivery process.

Keywords: Sermon Tracking, Sermon Management, Digital Marketing, Security Awareness.



The Impact of Robotics in the Economic of the Industrial Countries: Comprehensive Study

Nawal A Alonazi, Dr. Kawthar A. Al-Dhlan*

ngal94@gmail.com, K_alidhlan@bnu.edu.sa

Department of Computer Science and Information College of computer science and engineering, University of Ha'il

Abstract— Until the present time, man used to do everything by his arm and tool, from building, painting, transporting, installing, assembling, drilling, blowing, and exploration of minerals using the his capabilities, which takes a lot of effort and high cost with many labour forces to complete the work. However, with the industrial revolution and the arrival of artificial intelligence which improves the automation and simulates the act of humans as well as enhancing other complicated process that would never done with humans. By industrial robots the critical tasks will successfully achieved in some certain environment. Robots adoption is changed the economy in interesting way which encourage to invest in them. The advantages of robots for the industrial world including the accuracy, efficiency, time management, quality and efficiency in controlling



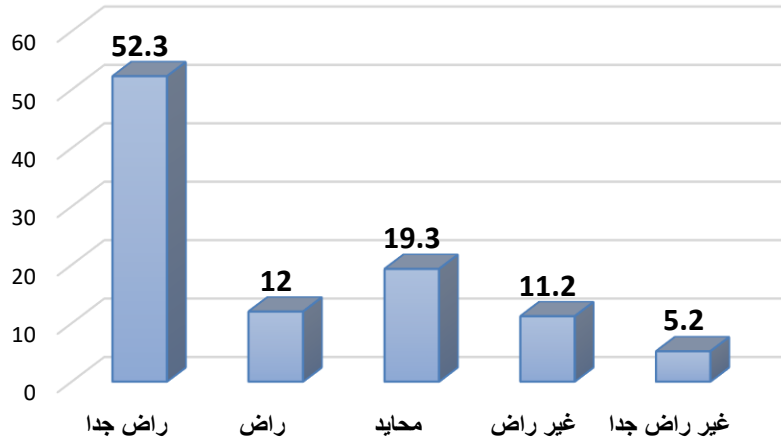
تجهيز جناح خاص بالدراسات العليا في كلية علوم وهندسة الحاسب الآلي



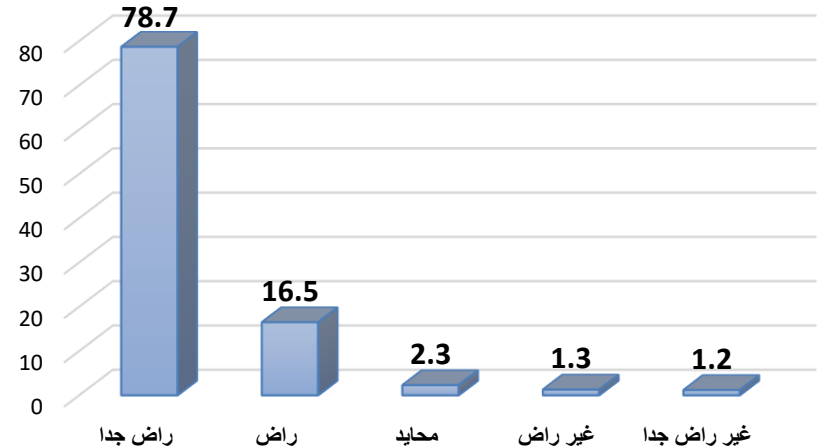


قياس رضا المستفيد

مستوى الرضا عن الأداء الإداري داخل الكلية



مستوى الرضا عن الاداء الأكاديمي والعلمي للبرنامج



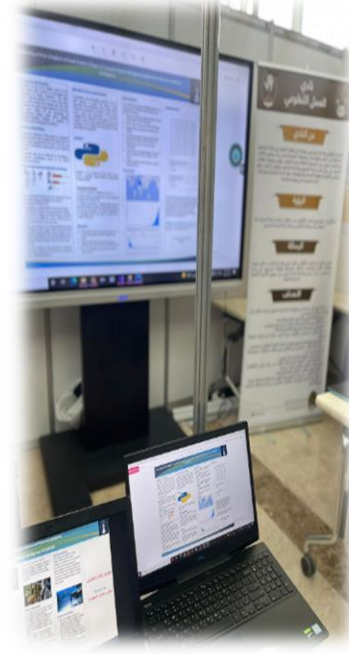
CUSTOMER SATISFACTION SCORE (CSAT)



المشاركات في الأنشطة والملتقيات العلمية والبحثية

طلاب وطالبات الدراسات العليا في برنامج الأمن السيبراني
والذكاء الاصطناعي

الملتقى الأول لطلاب الدراسات العليا بجامعة حائل



مشاركة طلاب البرنامج في معرض الجامعات 2022



جامعة حائل
University of Ha'il

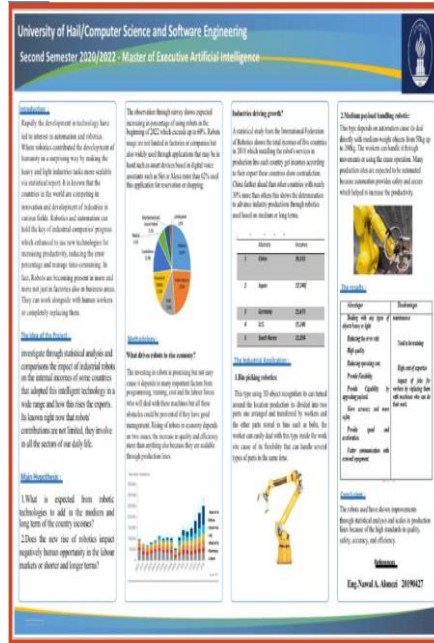
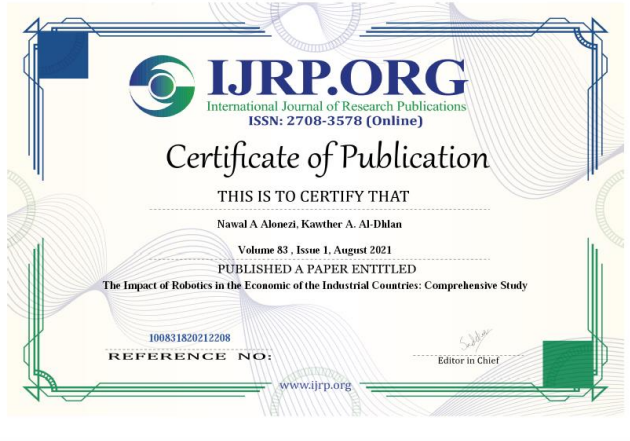


وحدة الدراسات العليا تشارك في معرض مشروعات ومواهب الطلبة الإبداعية والابتكارية
الذي اقيم في بهو الكلية التطبيقية بالمدينة الجامعية (2022)

مشاركة طلاب البرنامج في ملتقى التقنيات الإبتكارية 1



مشاركات طلاب الدراسات العليا في الفعاليات الخارجية



المشاركة في المؤتمر الدولي للحوسبة الذكية وتطبيقاتها ICSCA2023



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البحث العلمي



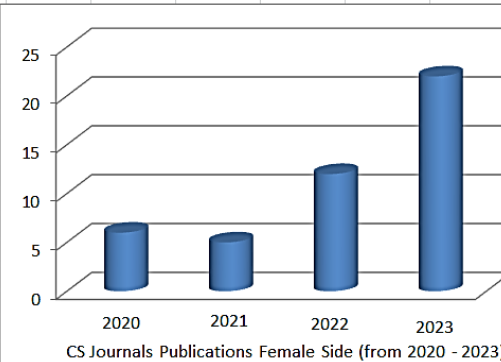
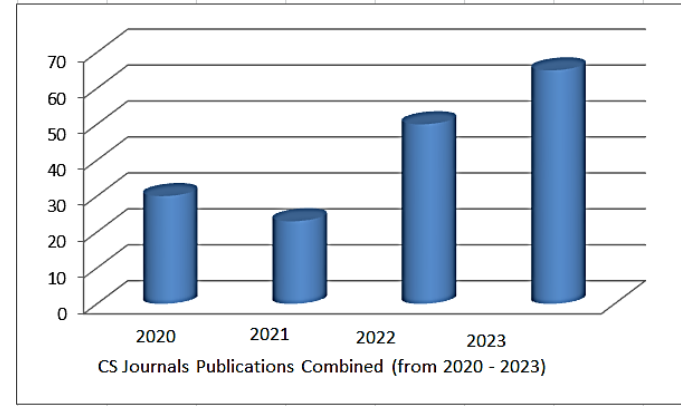
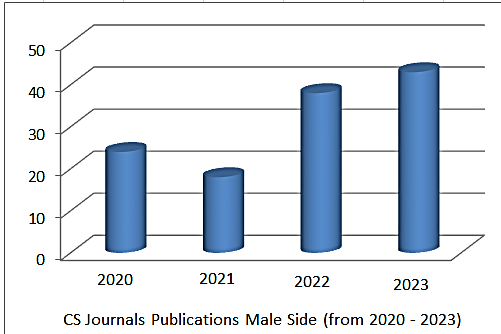
Number of Publications in Computer Science and Information Department from 2020 – 2023



جامعة حائل
University of Ha'il



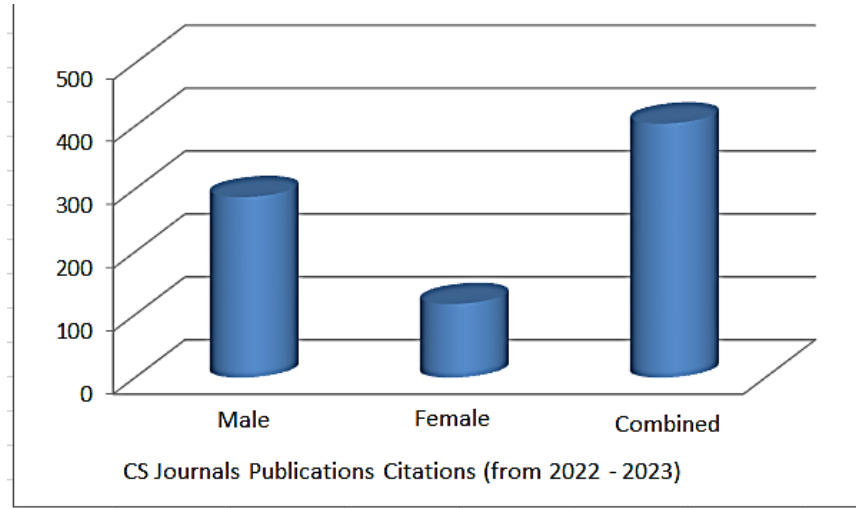
Years	Male	Female	Combined
2020	24	6	30
2021	18	5	23
2022	38	12	50
2023	43	22	65



CS Department Journals Publications (from 2020 - 2023)



Number of Citations in Computer Science and Information Department from 2022 – 2023



Number of Funded Projects and Patents in Computer Science and Information Department from 2020 – 2023

- ❑ Number of funded projects in Computer Science and Information Department from year 2020 to 2023 up to 80 funded project from different programs
- ❑ Numbers of patents in Computer Science and Information Department from year 2020 to 2023 are 10 patents

