

Personal Information

Name	Samar Al-Saqqa
Place and date of birth	Amman
Faculty	King Abdullah II School of Information Technology
Department	Information Technology

Qualifications

Qualification	Specialization	University of donor rank	Date
Ph.D.	Computer Science (Rank: Excellent)	Princess Sumaya University for Technology	2024
Master	Computer Science (Rank: Excellent)	The university of Jordan	2007
Bachelor	Computer Science (Rank: Excellent)	The university of Jordan	2003

Specialization and domain of interest

Specialization	Computer Science
Domain of interest	Artificial Intelligence-Deep Learning- Transfer Learning
Specialization and domain of interest	The research interests in the areas of Artificial Intelligence, Natural language processing, Sentiment Analysis, Machine Learning, Data Mining and e-technologies.

Title and abstract of the doctoral thesis (within 150 words)

Title: Hate Speech Detection of Arabic Text Using Deep Learning and Transfer Learning Models

Abstract: In recent years, social media platforms have become a prominent space for users to express their opinions and share their views, leading to a vast volume of user-generated

content. However, some of this content may include hate speech targeting specific groups or individuals. As a result, many online platforms now require automated systems for detecting and filtering such harmful content. Early and accurate detection of hate speech is crucial for maintaining a safe and respectful online environment, especially given user-generated content's rapid and continuous growth, which can otherwise trigger negative reactions. This dissertation addresses the challenges of detecting hate speech in Arabic social media, complicated by the language's rich morphology, dialect diversity, and limited resources. It introduces the Attention-based Combined Deep Learning for Hate Speech Detection (ACDHS) model, which integrates deep learning architectures, transfer learning, and attention mechanisms to capture the nuanced context of Arabic text more effectively than traditional methods. The ACDHS model leverages BERT-based pretrained models, including AraBERT, MARBERT, CAMELBERT, and ArabicBERT, along with Convolutional Neural Networks (CNNs), Long Short-Term Memory networks (LSTMs), Gated Recurrent Units (GRUs), and attention mechanisms to capture both local and long-term dependencies. The ACDHS model was tested on three distinct datasets, selected based on their use in previous studies to ensure the reliability and accuracy of the evaluation. Evaluated against traditional machine learning and deep learning methods using AraVec embeddings, the ACDHS model consistently outperformed other approaches, achieving F1 scores of 0.994 on Dataset 3 and 0.970 on Dataset 1. To further validate the effectiveness of the ACDHS model, an ablation study was conducted to assess the contribution of each component within the model. The findings indicate that the attention mechanism and combining convolutional and recurrent neural network layers are essential to the model's success. This dissertation underscores the effective performance of the ACDHS model in detecting hate speech in Arabic text, offering a reliable and advanced solution adaptable to various text types and dialects. The findings suggest that integrating attention mechanisms with BERT-based embeddings in a combined deep-learning architecture significantly enhances the capability to detect hate speech, making the ACDHS model valuable to natural language processing and detection.

Career Experience

Job Title	Place of work	Date
Instructor	King Abdullah II School of Information Technology/The University of Jordan	6/9/2009 till now
Blackboard E-Learning System Administrator/	Development Affairs Office / The University of Jordan	1/9/2004 - 5/9/2009
Package Software Developer	CEB (Computer Engineering Berou) Company	1/7/2003 - 31/8/2004

Administrative works and committees

Administrative work and committee	Date
Accreditation and Quality Assurance Committee	2024/2025
E-learning Committee	2024/2025
Strategic Curriculum Committee	2024/2025
Qualification Placement Committee	2024/2025
Qualification Development and Review Committee	2024/2025
Jordanian Accreditation Committee	2024/2025
Student Projects and Training	2024/2025
Department Social Committee	2024/2025
Students Election Committee	2024/2025

Recent Publications within last five years

Name of researcher	Research title, Publisher, Date
Bashar Al-Shboul, , Dana A. Al-Qudah, Hadeel Boshmaf, Bilal Abu-Salih, Majdi Beseiso, and Samar Al-Saqqa	Arabic Wikipedia users' personalized behavior analysis considering gender gap. PloS one 19, no. 10 (2024): e0312176.
Rizik Al-Sayyed. Abu Awwad, F., Itriq, M., Suleiman, D, Samar Al-Saqqa and AlSayyed, A.	The pass/fail grading system at Jordanian universities for online learning courses from students' perspectives. In Frontiers in Education (Vol. 8, p. 316). Frontiers.2023
Samar Al-Saqqa, Arafat Awajan, Bassam Hammo	Performance Comparison of Word2Vec Models for Detecting Arabic Hate Speech on Social Networks, 2022 International Conference on Emerging Trends in Computing and Engineering applications (ETCEA) IEEE.2022

Samar Al-Saqqa ,Sufyan Almajali	Blockchain Technology Consensus Algorithms and Applications: A Survey, International Journal of Interactive Mobile Technologies (iJIM),2020
Samar Al-Saqqa Mustafa A. Al-Fayoumi Malik Qasaimeh	Intrusion Detection System for Malicious Traffic Using Evolutionary Search Algorithm, Recent Patents on Computer Science,2020
Samar Al-Saqqa ,Ghazi Al-Naymat	Unsupervised Sentiment Analysis Approach Based on Clustering for Arabic Text, 35th IBIMA ,ISI Conference,2020
Samar Al-Saqqa, Samer Sawalha , Hiba Abdel-Nabi	Agile Software Development: Methodologies and Trends, International Journal of Interactive Mobile Technologies (iJIM),2020
Samar Al-Saqqa, Arafat Awajan	The Use of Word2vec Model in Sentiment Analysis: A Survey, AIRC '19: 2019 International Conference on Artificial Intelligence, Robotics and Control,2019
Samar Al-Saqqa, Arafat Awajan,Said AlGoul	Stemming Effects on Sentiment Analysis using Large Arabic Multi-Domain Resources, The Sixth IEEE International Conference on Social Networks Analysis, Management and Security,2019
Samar Al-Saqqa, Ghazi Al-Naymat,Arafat Awajan	A Large-Scale Sentiment Data Classification for Online Reviews Under Apache Spark, Procedia Computer Science, 2018
Samar Al-Saqqa, Hiba Abd Alnabi, Arafat Awajan	A Survey of Textual Emotion Detection 8th International Conference on Computer Science and Information Technology (CSIT),2018
Samar Al-Saqqa, Nadim Obaid,Arafat Awajan,	Sentiment Analysis for Arabic Text using Ensemble Learning IEEE/ACS 15th International Conference on Computer Systems and Applications (AICCSA), 2018.

Rizik Al-Sayyed, Samar Al-Saqqa, Dana Al Qudah, Ja'far Alqatawna, Ahmad A. Suleiman	The role of social media networks in shaping the e-content generation, Journal of Instructional Technology and Distance Learning, 2017
Rizik Al-Sayyed, Feras Namous, al-monther Khalafat, Bashar Al-Shboul, Samar Al-Saqqa	New Synchronization Algorithm Based on Delta Synchronization for Compressed Files in the Mobile Cloud Environment, International Journal of Communications, Network and System Sciences, 2017
Dana Al Qudah, Alexandra Cristea, Suncica Hadzidedic, Samar Al-Saqqa, Ali Rodan, Wei Yang	Personalized E-Advertisement and Experience: Recommending User Targeted Ads, IEEE 12th International Conference on e-Business Engineering (ICEBE), 2015
Dana Al Qudah, Alexandra Cristea, Suncica Hadzidedic, Samar Al-Saqqa, Rizik Al-Sayyed	A Taxonomy-Based Evaluation of Personalized E-Advertisement, , IEEE International Conference on Computer and Information Technology; Ubiquitous Computing and Communications; Dependable, Autonomic and Secure Computing; Pervasive Intelligence and Computing (CIT/IUCC/DASC/PICOM), 2015
Muhannad Anwar Al-Shboul, Osama Rababah, Moh'D Anwer Al-Shboul, Samar Al-saqqa	Challenges and Factors Affecting the Implementation of E-Government in Jordan, Journal of Software Engineering and Applications , 2014
Samar Al-Saqqa, Rizik Al-Sayyed, Mohmmad Alshraideh Maisaa abu Obaidah , Sana'a Balawi	How Technology Affects Our Life: The Case of Mobile Free Minutes in Jordan, Life Science Journal , 2014

Scientific conferences and symposia

Conference Title	Place and date of conference	Type of participation
The 15th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN)	October 28-30, 2024, Leuven, Belgium	Presenting a research paper

International Conference on Emerging Trends in Computing and Engineering Applications (ETCEA 2022)	Mutah University Karak-Jordan 23 - 25 November 2022	Presenting a research paper
The first international Conference on online and Blended Learning (1 st ICOBL 2021)	The University of Jordan Amman-Jordan, 24 th of August 2021	Organizer
ACM/AIRC '19: 2019 International Conference on Artificial Intelligence, Robotics and Control	Cairo-Egypt December 2019	Presenting a research paper
SNAMS2019: Sixth International Conference on Social Networks Analysis, Management and Security IEEE- Granada university	2019/10/25-2019/10/22 Granada-Spain	Presenting a research paper
ICTCS2019: The Second International Conference on New Trends in Computing Sciences IEEE	2019/10/11-2019/10/9 Amman-Jordan	Attendance
The 9th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSP-N) Elsevier	2015/11/8-2018/11/5 Belgium	Presenting a research paper
AICCSA 2018: 15th ACS/IEEE International Conference on Computer Systems and Applications IEEE	2018/11/1- 2018/10/28 Aqaba-Jordan	Presenting a research paper
ICTCS2017: The Second International Conference on New Trends in Computing Sciences IEEE	2017/10/13-2017/10/11 Amman-Jordan	Attendance

Training courses

Name of course	Date
" Qualification Placement in the National Framework"	24th, October, 2024

Center for Excellence in Learning and Teaching/University of Jordan	
"Generative AI Tools: Practical Applications and Ethical Considerations" Center for Excellence in Learning and Teaching/University of Jordan	5th, August, 2024
" Create Interactive Course Content With H5P Tools" Center for Excellence in Learning and Teaching/University of Jordan	25th, April, 2024
"The requirements of strategic planning and the role of college staff " KASIT/ University of Jordan	27th, Feb, 2024
"Publishing Qualitative Research in Business and Management Journal" / University of Jordan	15th, Feb, 2024
"Writing a literature review". Deanship of scientific research/ University of Jordan	2nd, Nov, 2023
"ZOTERO as a Citation Tool: How to Improve the Accuracy and Speed of Writing Research". Deanship of scientific research/ University of Jordan	26th, Oct, 2023
The use of PowerPoint Presentation in Teaching and Research, Accreditation and Quality Assurance Center The University of Jordan	4th, March, 2023
An overview of CHATGPT: Definition, Uses, and Limitations. Accreditation and Quality Assurance Center The University of Jordan	6th, March, 2023
Management & Leadership Skills, Accreditation and Quality Assurance Center The University of Jordan	21th, April, 2022
Statistical Package for the Social Sciences(SPSS) Open Educational Resources and Blended Learning Center, The University of Jordan	31th, Jan, 2022
Designing content for blended learning courses, Open Educational Resources and Blended Learning Center, The University of Jordan	1st, July, 2021
Using Moodle for interactive learning, Open Educational Resources and Blended Learning Center,	28th, June, 2021

The University of Jordan	
Using Teams for Online Learning, Open Educational Resources and Blended Learning Center, The University of Jordan	16th, June, 2021
Advanced LaTeX Workshop: Typesetting Presentations Using Beamer. Accreditation and Quality Assurance Center The University of Jordan	6th May, 2021
MCQ test item analysis, Accreditation and Quality Assurance Center The University of Jordan	29th, March, 2021
Step by Step on How to prepare a Successful paper, Springer Nature , AD Webinars	23th, March, 2021
Preparing Exam On Moodle Accreditation and Quality Assurance Center The University of Jordan	2021
Exams on Microsoft teams Accreditation and Quality Assurance Center The University of Jordan	2021
Camtasia 9 Accreditation and Quality Assurance Center The University of Jordan	2020
Cyber Security Fork Project The University of Jordan	2020
Mobile Forensics\ Fork Project The University of Jordan	2020
Cyber Security Threat\ Fork Project The University of Jordan	2020
Blended Learning –The University of Jordan	2019
Latex Workshop Accreditation and Quality Assurance Center The University of Jordan	2018
How To Increase Citations Accreditation and Quality Assurance Center The University of Jordan	2018
Scientific Research with Big Data Accreditation and Quality Assurance Center The University of Jordan	2018
SPSS Accreditation and Quality Assurance Center The University of Jordan	2017

Web Of Science And Endnote The University of Jordan	2016
Using Social Media In teaching and learning- Accreditation and Quality Assurance Center The University of Jordan	2016
Pioneers Microsoft	2016

Teaching activities

Taught Courses	Bachelor	Graduate
Computer Ethics	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fundamentals of Information Systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Management Information Systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Web Application Development 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Web Advanced Development	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Database Tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discrete Mathematics	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Computer Skills for Scientific	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Computer Skills for Humanities	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Computer Skills1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Social Media	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Membership in scientific and professional bodies and societies

Name and place of scientific body and society	Date

Awards

Name of Award	Donor and place of award	Date
