# **Prof. Hossam Faris**

Full Professor of Data Mining and Knowledge-based Systems The University of Jordan

## PERSONAL DETAILS

Birth	December 14, 1981
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Mail	7ossam@gmail.com
Github ID	7ossam81
ResearchGate	My RG Profile
GoogleScholar	My Google Scholar Profile
Website	http://evo-ml.com/

# SUMMARY

I am a Full Professor at the Information Technology department/King Abdullah II School for Information Technology/ The University of Jordan (Jordan). I received my BA and M.Sc. degrees (with excellent rates) in Computer Science from Yarmouk University and Al-Balqa' Applied University in 2004 and 2008 respectively in Jordan. Since then, I have been awarded a full-time competition-based PhD scholarship from the Italian Ministry of Education and Research to peruse my PhD degrees in eBusiness at University of Salento, Italy, where I obtained my PhD degree in 2011. In 2016, I worked as a Postdoctoral researcher with GeNeura team at the Information and Communication Technologies Research Center (CITIC), University of Granada (Spain). I have an excellent research record in Machine learning, Data Mining and Evolutionary Computation. In 2017, I have co-founded The Evolutionary and Machine Learning (Evo-ML.com) Research group which counts 7 PhD and master students from the University of Jordan and collaborates with many well-regarded and ambitious scholars from different countries across the world. In 2018, I worked as a director of the Open Educational Resources center at The University of Jordan. In 2018, I was recognized as one of the top researchers publishing in Scopus journals in the University of Jordan with 100+ publications. Additionally, I won Ali Mango Award for Distinguished Researcher in the same year. So far, I have 50+ papers published in prestigious Q1 and Q2 ISI journals with high impact factor. In addition, I have worked as a leading researcher and consultant in several research based projects including Medical health informatics, Customer Churn Prediction, Spam Detection, and Hate Speech detection over Online Social Networks.

	Google Scholar	Scopus
Citations	3741	2587
h-index	28	22
10-index	72	39

# WORK EXPERIENCE

#### Full Professor

Information Technology Department King Abdulla II School for Information Technology The University of Jordan, Amman - Jordan

#### Director of the Open Educational Resources Center

The University of Jordan, Amman - Jordan

Main responsibilities:

- Establishing the OER center (I am the first director of the center).
- Establish the initiative task force of the center.
- Set initiative objectives and vision.
- Analyze resources needed for OER initiative (including technological infrastructure).
- Develop executive plan for the center.
- Develop implementation strategies.
- Integrate OER within the Learning management systems.
- Develop the budget plan of the center.
- Localize/customize the OER initiative to the institutional setting.
- Initiate OER diffusion/promotion strategies.
- Ensure OER quality and measure degree of OER awareness.

#### Associate Professor

Information Technology Department King Abdulla II School for Information Technology The University of Jordan, Amman - Jordan

#### Postdoctoral researcher

Information and Communication Technologies Research Center (CITIC), University of Granada (Spain)

- I was awarded a Postdoctoral scholarship from the DUNIA BEAM project offered by the DUNIA BEAM II Selection Committee/Erasmus Mundus.
- During my Postdoctoral period, I worked as a member of GeNeura Team specialized in Evolutionary Computation, Neural and Complex Networks.
- Main research outcomes:
  - Castillo PA, Mora AM, Faris H, Merelo J, García-Sánchez P, Fernández-Ares AJ, las Cuevas PD and García-Arenas MI (2017), "Applying computational intelligence methods for predicting the sales of newly published books in a real editorial business management environment", Knowledge-Based Systems. Vol. 115, pp. 133 - 151. Elsevier. (Impact Factor 4.529).
  - Faris H, Aljarah I, Mirjalili S, Castillo PA and Merelo JJ (2016), "EvoloPy: An Open-source Nature-inspired Optimization Framework in Python", In Proceedings of the 8th International Joint Conference on Computational Intelligence, IJCCI 2016, Volume 1: ECTA, Porto, Portugal, November 9-11, 2016.., pp. 171-177

Dec 2015 – Jul

Jul 2015 – Present

Apr 2018 – Present

Jul 2019 – Present

#### Assistant Professor

Information Technology Department King Abdulla II School for Information Technology The University of Jordan, Amman - Jordan

#### Researcher/Developer

University of Salento

Researcher and developer for X@WORK Research project funded in the frame of the agreement MIUR – MEF - Apulia Region and aimed to design and develop a collaborative and distributed working environment based on a technological platform that virtually reproduces and integrates tools and functionalities, and make them accessible through a single access point. The experimentation context for the platform is the new product development process in the aerospace. The project is conducted in partnership with DHITECH Consortium, Avio, and Engineering. This development and research was part of my PhD work.

Specific responsibilities include: Knowledge Management, Knowledge Base Integration, Ontology Engineering, Collaborative Working Environment, Community of Practice Development & Support, and Enterprise Portals.

#### Automated exams administrator and developer

The University of Jordan / King Abdullah II for IT, Amman (Jordan)

- Analyzing automated exams system logs and identifying security potential issues.
- Developing, introducing and integrating new automated exams technologies into existing data centre environments.
- Performing routine audits of automated exams system.
- Performing grades analysis and maintaining system backups. Applying operating system updates, patches, and configuration changes. Installing and configuring new hardware and software.
- Adding, removing, or updating user account information, resetting passwords, etc.
- Responsibility for documenting the configuration the automated exams system.
- Troubleshooting any reported problems discovered in the online exams system. System performance tuning. Ensuring that the network infrastructure is up and running.

#### Part-time Lecturer

University of Jordan / King Abdullah II for IT, Amman (Jordan) Teaching Computer Skills

#### Open source Lab administrator

University of Jordan / King Abdullah II for , Amman (Jordan)

- Providing technical assistance and support for IT8 faculty.
- Administrate and Support Hardware Infrastructure.
- Support faculty members for all issues related to Linux OS and License Management, Apache web server, DNS, MAIL, Proxy, FTP server, iptables and printing servers.
- Participate to defining operational guidelines, process & tools requirements.
- Configure and install the hardware and integrate it to the labs and research environment, responsible for data backup & restore.

#### Jul 2011 – Jul 2015

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2006 - 2008
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2009 - 2011

2004 - 2006



# **EDUCATION**

#### PhD in e-Business

University of Salento, Italy

I was awarded a full-time competition-based PhD scholarship from the Italian Ministry of Education and Research to pursue my PhD degrees in e-Business.

#### M.S. in Computer Science (Excellent rate)

Al-Balqa' Applied University

Bachelor of Science in Computer Science (Excellent rate) Yarmouk Univers

# AWARDS AND HONOURS

### Highest cited researcher in JU The University of Jordan Recognized as the most cited researcher in JU over 2014-2019.

#### Ali Mango Award for Distinguished Researcher

The University of Jordan

#### Highly publishing researchers in Scopus

The University of Jordan

Honored by The University of Jordan as one of the most publishing researchers in SCOPUS in the university

Ranked 4th (University level) with 60 Scopus indexed publications

# **TEACHING EXPERIENCE**

During my work in The University of Jordan I have taught the following courses in the field of Computer Science and Information Technology.

PhD	Machine Learning
	Data Mining
Master	Semantic Web
	Data Mining and Warehousing
	Special Topics (Introduction to Evolutionary Algorithms)
Bachelor	Semantic Web
	Decision Support Systems
	Web Applications I (XHTML, CSS, JAVASCRIPT)
	Fundamentals of Information Technology

# **SKILLS**

Languages	Arabic (mother tongue)
	English (fluent)
	Italian (basic)
Programming	PVTHON C + + LAVASCRIPT MATLAR
Languages	I I INON, CTT, JAVASORIPI, MAILAB,

2008-2011

2005 - 2008

1999 - 2004

Jul 2018

Apr 2018

Jan 2020

# FUNDED PROJECTS

#### Employing data mining methods to improve the quality of the performance of the educational process April, 2019 - August, 2021

The University of Jordan, Amman, Jordan

Summary of the project:Over the last few years, the educational data mining techniques have received considerable attention, where these techniques concerned with developing methods for exploring the unique and hidden information that come from educational data. The hidden information that extracted from the educational data are used then to support the decision makers to enhance the education process. Many data mining and analysis techniques have been proposed to extract hidden information from educational data. The objective of this project is to take advantage of data mining and data analytics to solve some of educational problems such as low student performance which is hinder the development of educational process. In this project, the data will be collected from the Admissions and Registration Unit at the University of Jordan. The data will be related to all aspects of the educational process such as student performance, the academic load of the instructors, the number of the registered courses, and other related data. Once the data collection phase has been completed, the data will be analyzed by applying intelligent methods by taking advantage of data mining techniques. Funded By: Deanship of Academic Research, The University of Jordan

Budget: 8,000 JD (11,283 \$)

<u>Duration:</u> 2019 - 2021 (18 Months)

Lead Investigator: Hamad Alswalgah

Principal Investigators: Ibrahim Aljarah, Yazan Alshmailah, and Hossam Faris

### Intelligent Evolutionary Approach for Hate Speech Detection in Arabic Social Media

#### Feb, 2019 - Feb, 2021

The University of Jordan, Amman, Jordan

<u>Summary of the project</u>: Recently the social media has become an essential part of our daily life activities , people can post and share their opinion on current world's event . Although of its many useful uses, the hate speech is a common problem in social media. It means that using hate words against group or individuals based on people race , gender or religion with intention of bringing harm and raise violence toward them. It's important that social media should provide a tool to detect hate speech since it has a huge impact on its targets. Detecting hate speech in English has been widely studied and presented by a large number of researchers, however the topic of hate speech detection in Arabic language has attracted little attention .This due the limited resources and NLP (Natural Language Processing ) tools in Arabic, thus has drove our interest in proposing a tool for hate speech detection in Arabic social media . In this project, we use different machine learning and evolutionary algorithms to build efficient detectors/ models for hate speech contents.

Funded By: Deanship of Academic Research, The University of Jordan

<u>Budget:</u> 16,500 JD  $(23,000 \$ 

Duration: 2019 - 2021(2 Years)

Lead Investigator: Ibrahim Aljarah

Principal Investigators: Hossam Faris, Bassam Hammo, Mohammed Abusharia

# Spam Detection in the Context of Educational Institutions using Computa-<br/>tional Intelligence2015 - 2018

The University of Jordan

Summary of the project: Email spam is a major and global problem facing all email users. Email spam is not just unsolicited and annoying email messages, but a major cost that organizations and companies pay due to the negative impact of the spam on the bandwidth and storage of the networks, and also on workers time and productivity. Hundreds of thousands dollars are paid every year by organizations to buy anti-spam solutions. For specific working domains like the academic networking environments, spam detection strategies need to be more customizable and adaptable which makes the problem more challenging. In this project a development and application of an open source spam detection software based on evolutionary algorithms is proposed. The goal is to reduce the high afforded costs by the academic institutions while achieving better spam filtering accuracy and efficiency. Funded By: The University of Jordan

Budget: 20,000 JD (28,000 USD)

<u>Duration:</u> 2 years 2015 2017

Lead Investigator: Ja'far Alqatawneh

Principal Investigators: Hossam Faris and Ali Rodan

# SELECTED JOURNAL PUBLICATIONS

- 1. Hossam Faris, Ali Asghar Heidari, Al-Zoubi Ala'M, Majdi Mafarja, Ibrahim Aljarah, Mohammed Eshtay, and Seyedali Mirjalili. Time-varying hierarchical chains of salps with random weight networks for feature selection. *Expert Systems with Applications*, 140:112898, 2020. (Publisher: Elsevier, Rank: Q1, IF: 4.292)
- Majdi Mafarja, Asma Qasem, Ali Asghar Heidari, Ibrahim Aljarah, Hossam Faris, and Seyedali Mirjalili. Efficient hybrid nature-inspired binary optimizers for feature selection. *Cognitive Computation*, 12(1):150–175, 2020. (Publisher: Springer, Rank: Q1, IF: 4.287)
- 3. Hasan Rawashdeh, Shatha Awawdeh, Fatima Shannag, Esraa Henawi, Hossam Faris, Nadim Obeid, and Jon Hyett. Intelligent system based on data mining techniques for prediction of preterm birth for women with cervical cerclage. Computational Biology and Chemistry, page 107233, 2020. (Publisher: Elsevier, Rank: Q2, IF: 1.581)
- 4. Mohammad A Hassonah, Rizik Al-Sayyed, Ali Rodan, Al-Zoubi Ala'M, Ibrahim Aljarah, and Hossam Faris. An efficient hybrid filter and evolutionary wrapper approach for sentiment analysis of various topics on twitter. *Knowledge-Based Systems*, page 105353, 2019. (Publisher: Elsevier, Rank: Q1, IF: 5.101)
- 5. Hossam Faris, Al-Zoubi Ala'M, Ali Asghar Heidari, Ibrahim Aljarah, Majdi Mafarja, Mohammad A Hassonah, and Hamido Fujita. An intelligent system for spam detection and identification of the most relevant features based on evolutionary random weight networks. *Information Fusion*, 48:67–83, 2019. (Publisher: Elsevier, Rank: Q1, IF: 10.716)
- Hossam Faris, Seyedali Mirjalili, and Ibrahim Aljarah. Automatic selection of hidden neurons and weights in neural networks using grey wolf optimizer based on a hybrid encoding scheme. *International Journal of Machine Learning and Cybernetics*, 10(10):2901–2920, 2019. (Publisher: Springer, Rank: Q1, IF: 3.844)
- Raneem Qaddoura, Hossam Faris, and Ibrahim Aljarah. An efficient clustering algorithm based on the k-nearest neighbors with an indexing ratio. *International Journal of Machine Learning and Cybernetics*, pages 1–40, 2019. (Publisher: Springer, Rank: Q1, IF: 3.844)
- Mohammad Taradeh, Majdi Mafarja, Ali Asghar Heidari, Hossam Faris, Ibrahim Aljarah, Seyedali Mirjalili, and Hamido Fujita. An evolutionary gravitational searchbased feature selection. *Information Sciences*, 497:219–239, 2019. (Publisher: Elsevier, Rank: Q1, IF: 5.524)
- Majdi Mafarja, Ibrahim Aljarah, Hossam Faris, Abdelaziz I Hammouri, Al-Zoubi Ala'M, and Seyedali Mirjalili. Binary grasshopper optimisation algorithm approaches for feature selection problems. *Expert Systems with Applications*, 117:267–286, 2019. (Publisher: Elsevier, Rank: Q1, IF: 3.768)

- Mohammed Azmi Al-Betar, Mohammed A Awadallah, Hossam Faris, Xin-She Yang, Ahamad Tajudin Khader, and Osama Ahmad Alomari. Bat-inspired algorithms with natural selection mechanisms for global optimization. *Neurocomputing*, 273:448–465, 2018. (Publisher: Elsevier, Rank: Q1, IF: 3.241)
- Amaal Al Shorman, Hossam Faris, and Ibrahim Aljarah. Unsupervised intelligent system based on one class support vector machine and grey wolf optimization for iot botnet detection. *Journal of Ambient Intelligence and Humanized Computing*, pages 1–17, 2019. (Publisher: Springer, Rank: Q2, IF: 1.91)
- Ala'M Al-Zoubi, Ja'far Alqatawna, Hossam Faris, and Mohammad A Hassonah. Spam profiles detection on social networks using computational intelligence methods: The effect of the lingual context. *Journal of Information Science*, page 0165551519861599, 2019. (Publisher: SAGE, Rank: Q1, IF: 2.327)
- Mohammed Azmi Al-Betar, Mohammed A Awadallah, Hossam Faris, Ibrahim Aljarah, and Abdelaziz I Hammouri. Natural selection methods for grey wolf optimizer. *Expert Systems with Applications*, 113:481–498, 2018. (Publisher: Elsevier, Rank: Q1, IF: 3.768)
- Al-Zoubi Ala'M, Hossam Faris, Mohammad A Hassonah, et al. Evolving support vector machines using whale optimization algorithm for spam profiles detection on online social networks in different lingual contexts. *Knowledge-Based Systems*, 153:91–104, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.396)
- 15. Alaa S AlAgha, Hossam Faris, Bassam H Hammo, and Al-Zoubi Ala'M. Identifying β-thalassemia carriers using a data mining approach: The case of the gaza strip, palestine. Artificial intelligence in medicine, 2018. (Publisher: Elsevier, Rank: Q2, IF: 2.879)
- Ibrahim Aljarah, Majdi Mafarja, Ali Asghar Heidari, Hossam Faris, Yong Zhang, and Seyedali Mirjalili. Asynchronous accelerating multi-leader salp chains for feature selection. *Applied Soft Computing*, 71:964–979, 2018. (Publisher: Elsevier, Rank: Q1, IF: 3.907)
- Ibrahim Aljarah, Hossam Faris, and Seyedali Mirjalili. Optimizing connection weights in neural networks using the whale optimization algorithm. *Soft Computing*, 22(1):1–15, 2018. (Publisher: Springer, Rank: Q2, IF: 2.367)
- Ibrahim Aljarah, Al-Zoubi Ala'M, Hossam Faris, Mohammad A Hassonah, Seyedali Mirjalili, and Heba Saadeh. Simultaneous feature selection and support vector machine optimization using the grasshopper optimization algorithm. *Cognitive Computation*, pages 1–18, 2018. (Publisher: Springer, Rank: Q1, IF: 3.479)
- Ibrahim Aljarah, Hossam Faris, Seyedali Mirjalili, and Nailah Al-Madi. Training radial basis function networks using biogeography-based optimizer. *Neural Computing and Applications*, 29(7):529–553, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.213)

- Mohammed Eshtay, Hossam Faris, and Nadim Obeid. Improving extreme learning machine by competitive swarm optimization and its application for medical diagnosis problems. *Expert Systems with Applications*, 104:134–152, 2018. (Publisher: Elsevier, Rank: Q1, IF: 3.768)
- Mohammed Eshtay, Hossam Faris, and Nadim Obeid. Metaheuristic-based extreme learning machines: a review of design formulations and applications. *International Journal of Machine Learning and Cybernetics*, pages 1–19, 2018. (Publisher: Springer, Rank: Q2, IF: 2.692)
- 22. Hossam Faris, Majdi M Mafarja, Ali Asghar Heidari, Ibrahim Aljarah, Al-Zoubi Ala'M, Seyedali Mirjalili, and Hamido Fujita. An efficient binary salp swarm algorithm with crossover scheme for feature selection problems. *Knowledge-Based Systems*, 154:43–67, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.396)
- 23. Hossam Faris, Ibrahim Aljarah, Mohammed Azmi Al-Betar, and Seyedali Mirjalili. Grey wolf optimizer: a review of recent variants and applications. *Neural computing* and applications, pages 1–23, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.213)
- 24. Hossam Faris. A hybrid swarm intelligent neural network model for customer churn prediction and identifying the influencing factors. *Information*, 9(11):288, 2018
- 25. Ahmad B Hassanat, Ghada Altarawneh, Ahmad S Tarawneh, Hossam Faris, Mahmoud B Alhasanat, Alex de Voogt, Baker Al-Rawashdeh, Mohammed Alshamaileh, and Surya VB Prasath. On computerizing the ancient game of Tāb. International Journal of Gaming and Computer-Mediated Simulations (IJGCMS), 10(3):20–40, 2018
- Ahmad Hassanat, V Prasath, Mohammed Abbadi, Salam Abu-Qdari, and Hossam Faris. An improved genetic algorithm with a new initialization mechanism based on regression techniques. *Information*, 9(7):167, 2018
- Ali Asghar Heidari, Hossam Faris, Ibrahim Aljarah, and Seyedali Mirjalili. An efficient hybrid multilayer perceptron neural network with grasshopper optimization. Soft Computing, pages 1–18, 2018. (Publisher: Springer, Rank: Q2, IF: 2.367)
- Wafa Herzallah, Hossam Faris, and Omar Adwan. Feature engineering for detecting spammers on twitter: Modelling and analysis. *Journal of Information Science*, 44(2):230–247, 2018. (Publisher: SAGE, Rank: Q3, IF: 1.939)
- Majdi Mafarja, Ibrahim Aljarah, Ali Asghar Heidari, Hossam Faris, Philippe Fournier-Viger, Xiaodong Li, and Seyedali Mirjalili. Binary dragonfly optimization for feature selection using time-varying transfer functions. *Knowledge-Based Systems*, 161:185–204, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.396)
- Majdi Mafarja, Ibrahim Aljarah, Ali Asghar Heidari, Abdelaziz I Hammouri, Hossam Faris, Al-Zoubi Ala'M, and Seyedali Mirjalili. Evolutionary population dynamics and grasshopper optimization approaches for feature selection problems. *Knowledge-Based Systems*, 145:25–45, 2018. (Publisher: Elsevier, Rank: Q1, IF: 4.396)

- Seyedeh Zahra Mirjalili, Seyedali Mirjalili, Shahrzad Saremi, Hossam Faris, and Ibrahim Aljarah. Grasshopper optimization algorithm for multi-objective optimization problems. *Applied Intelligence*, 48(4):805–820, 2018. (Publisher: Springer, Rank: Q2, IF: 1.983)
- 32. Alaa Sheta, Hossam Faris, Ali Rodan, Elvira Kovač-Andrić, and Al-Zoubi Ala'M. Cycle reservoir with regular jumps for forecasting ozone concentrations: two real cases from the east of croatia. Air Quality, Atmosphere & Health, pages 1–11, 2018. (Publisher: Springer, Rank: Q2, IF: 2.662)
- 33. Sarah Shukri, Hossam Faris, Ibrahim Aljarah, Seyedali Mirjalili, and Ajith Abraham. Evolutionary static and dynamic clustering algorithms based on multi-verse optimizer. *Engineering Applications of Artificial Intelligence*, 72:54–66, 2018
- 34. Pedro A Castillo, Antonio M Mora, Hossam Faris, JJ Merelo, Pablo García-Sánchez, Antonio J Fernández-Ares, Paloma De las Cuevas, and María I García-Arenas. Applying computational intelligence methods for predicting the sales of newly published books in a real editorial business management environment. *Knowledge-Based Systems*, 115:133–151, 2017. (Publisher: Elsevier, Rank: Q1, IF: 4.396)
- 35. Hossam Faris, Ibrahim Aljarah, and Seyedali Mirjalili. Improved monarch butterfly optimization for unconstrained global search and neural network training. *Applied Intelligence*, pages 1–20, 2017. (Publisher: Springer, Rank: Q2, IF: 1.983)
- 36. Hossam Faris, Mohammad A Hassonah, Al-Zoubi Ala'M, Seyedali Mirjalili, and Ibrahim Aljarah. A multi-verse optimizer approach for feature selection and optimizing svm parameters based on a robust system architecture. *Neural Computing* and Applications, pages 1–15, 2017. (Publisher: Elsevier, Rank: Q1, IF: 4.213)
- 37. Seyedali Mirjalili, Amir H Gandomi, Seyedeh Zahra Mirjalili, Shahrzad Saremi, Hossam Faris, and Seyed Mohammad Mirjalili. Salp swarm algorithm: A bioinspired optimizer for engineering design problems. Advances in Engineering Software, 114:163–191, 2017
- 38. Ali Rodan, Alaa F Sheta, and Hossam Faris. Bidirectional reservoir networks trained using svm+ privileged information for manufacturing process modeling. *Soft Computing*, 21(22):6811–6824, 2017. (Publisher: Springer, Rank: Q2, IF: 2.367)
- Hossam Faris and Alaa Sheta. A comparison between parametric and nonparametric soft computing approaches to model the temperature of a metal cutting tool. International Journal of Computer Integrated Manufacturing, 29(1):64–75, 2016
- Hossam Faris, Alaa F Sheta, and Ertan Öznergiz. Mgp-cc: a hybrid multigene gp-cuckoo search method for hot rolling manufacture process modelling. Systems Science & Control Engineering, 4(1):39–49, 2016

- Hossam Faris, Ibrahim Aljarah, Nailah Al-Madi, and Seyedali Mirjalili. Optimizing the learning process of feedforward neural networks using lightning search algorithm. *International Journal on Artificial Intelligence Tools*, 25(06):1650033, 2016
- Hossam Faris, Ibrahim Aljarah, and Seyedali Mirjalili. Training feedforward neural networks using multi-verse optimizer for binary classification problems. *Applied Intelligence*, 45(2):322–332, 2016. (Publisher: Springer, Rank: Q2, IF: 1.983)
- 43. Elvira Kovač-Andrić, Alaa Sheta, Hossam Faris, and Martina Šrajer Gajdošik. Forecasting ozone concentrations in the east of croatia using non-parametric neural network models. *Journal of Earth System Science*, 2016
- 44. Bashar Al-Shboul, **Hossam Faris**, and Nazeeh Ghatasheh. Initializing genetic programming using fuzzy clustering and its application in churn prediction in the telecom industry. *Malaysian Journal of Computer Science*, 28(3):213–220, 2015
- Mohammad Naser, Abu Qdais, Hossam Faris, et al. Developing trip generation rates for hospitals in amman. Jordan Journal of Civil Engineering, 159(3115):1–12, 2015
- 46. Ali Rodan, Ayham Fayyoumi, Hossam Faris, Jamal Alsakran, and Omar Al-Kadi. Negative correlation learning for customer churn prediction: a comparison study. *The Scientific World Journal*, 2015, 2015
- 47. Alaa F Sheta, **Hossam Faris**, and Ertan Öznergiz. Improving production quality of a hot-rolling industrial process via genetic programming model. *International Journal of Computer Applications in Technology*, 49(3-4):239–250, 2014
- Hossam Faris, Alaa Sheta, and Ertan Öznergiz. Modelling hot rolling manufacturing process using soft computing techniques. International Journal of Computer Integrated Manufacturing, 26(8):762–771, 2013

# **BOOK CHAPTERS**

- Ali Safa Sadiq, Hossam Faris, Ala' M. Al-Zoubi, Seyedali Mirjalili, and Kayhan Zrar Ghafoor. Chapter 17 - fraud detection model based on multi-verse features extraction approach for smart city applications. In *Smart Cities Cybersecurity and Privacy*, pages 241 – 251. Elsevier, 2019
- Hamad Alsawalqah, Hossam Faris, Ibrahim Aljarah, Loai Alnemer, and Nouh Alhindawi. Hybrid smote-ensemble approach for software defect prediction. In Software Engineering Trends and Techniques in Intelligent Systems, pages 355–366. Springer, Cham, Springer International Publishing, 2017
- Mais Haj Qasem, Hossam Faris, Ali Rodan, and Alaa Sheta. Empirical evaluation of the cycle reservoir with regular jumps for time series forecasting: A comparison study. In Artificial Intelligence Trends in Intelligent Systems, pages 115–124. Springer, Cham, Springer International Publishing, 2017

- 4. Hossam Faris, Ibrahim Aljarah, and Bashar Al-Shboul. A hybrid approach based on particle swarm optimization and random forests for e-mail spam filtering. In *Computational Collective Intelligence*, pages 498–508. Springer, Cham, Springer International Publishing, 2016
- 5. Ali Rodan and Hossam Faris. Credit risk evaluation using cycle reservoir neural networks with support vector machines readout. In *Intelligent Information and Database Systems*, pages 595–604, Berlin, Heidelberg, 2016. Springer Berlin Heidelberg
- Hossam Faris, Bashar Al-Shboul, and Nazeeh Ghatasheh. A genetic programming based framework for churn prediction in telecommunication industry. In *Computational Collective Intelligence. Technologies and Applications*, pages 353–362. Springer, Cham, Springer International Publishing, 2014

# PAPERS IN CONFERENCE PROCEEDINGS

- 1. Maria Habib **Hossam Faris**, Ibrahim Aljarah and Pedro A. Castillo. Hate speech detection using word embedding and deep learning in the arabic language context. In *Proceedings of The International Conference on Pattern Recognition Applications and Methods*, 2020
- Sobhi Ahmed, Majdi Mafarja, Hossam Faris, and Ibrahim Aljarah. Feature selection using salp swarm algorithm with chaos. In Proceedings of the 2nd International Conference on Intelligent Systems, Metaheuristics & Swarm Intelligence, pages 65–69. ACM, 2018
- 3. Al-Zoubi Ala'M and Hossam Faris. Spam profile detection in social networks based on public features. In Information and Communication Systems (ICICS), 2017 8th International Conference on, pages 130–135. IEEE, 2017
- 4. Hossam Faris, Al-Zoubi Ala'M, Ibrahim Aljarah, et al. Improving email spam detection using content based feature engineering approach. In Applied Electrical Engineering and Computing Technologies (AEECT), 2017 IEEE Jordan Conference on, pages 1–6. IEEE, 2017
- 5. Hossam Faris et al. Toward a detection framework for android botnet. In New Trends in Computing Sciences (ICTCS), 2017 International Conference on, pages 197–202. IEEE, 2017
- Hossam Faris, Ibrahim Aljarah, Seyedali Mirjalili, Pedro A Castillo, and Juan Julián Merelo Guervós. Evolopy: An open-source nature-inspired optimization framework in python. In *IJCCI (ECTA)*, pages 171–177, 2016
- 7. Ali Rodan and **Hossam Faris**. Credit risk evaluation using cycle reservoir neural networks with support vector machines readout. In *Intelligent Information and Database Systems*, pages 595–604, Berlin, Heidelberg, 2016. Springer Berlin Heidelberg

- Hossam Faris, Ibrahim Aljarah, et al. Optimizing feedforward neural networks using krill herd algorithm for e-mail spam detection. In Applied Electrical Engineering and Computing Technologies (AEECT), 2015 IEEE Jordan Conference on, pages 1–5. IEEE, 2015
- Alaa F Sheta, Nazeeh Ghatasheh, and Hossam Faris. Forecasting global carbon dioxide emission using auto-regressive with exogenous input and evolutionary product unit neural network models. In *Information and Communication Systems* (ICICS), 2015 6th International Conference on, pages 182–187. IEEE, 2015
- 10. Hossam Faris, Salvatore Totaro, and Angelo Corallo. Framework and implementation of a knowledge management system for aerospace collaborative working environments. In *Mobile Data Management (MDM), 2011 12th IEEE International Conference on*, volume 2, pages 92–97. IEEE, 2011
- Amjad Fayoumi, Hossam Faris, and Francesca Grippa. Improving knowledge handling by building intelligent systems using social agent modelling. In 2009 Fourth International Multi-Conference on Computing in the Global Information Technology, pages 86–91. IEEE, 2009

# ACADEMIC SUPERVISION

#### Ph.D Theses

- "A Design and Implementation of a Clustering Algorithm based on the Nearest Point", Raneem Qaddoura (2019)
- "Metaheuristic design for extreme learning machine", Mohammed Eshtay (2018)

#### M.Sc. Theses

- "A hybrid data mining approach for credit risk prediction and analysis", Sarah Tubasi (2015)
- "Tweets filtering and categorization using Big data processing techniques", Wafa Herzallah (2016)
- "Developing spam detection models using evolutionary algorithms", Khaled Jaradat (2016)
- "Web log clustering based on evolutionary optimization algorithm", Sarah Shukri (2017)
- "Link prediction using evolutionary learning models", Rawan Yaghi (2017)
- "Android botnet detection using comprehensive features engineering approach", Wadi' Hijawi (2018)
- "Building a hybrid sentiment analysis system for Arabic language"", Mo'ath Alrefa'i (2018)
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