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|  | **Personal Information** |

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|  | **Dr Bilal ABU-SALIH** | **Name** |
|  | **King Abdullah II School of Information Technology** | **Faculty** |
|  | **Computer Science** | **Department** |
|  | **b.abusalih@ju.edu.jo** | **Email** |

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|  | **Qualifications** |

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|  | **Date** | University of donor rank | **Specialization** | Qualification |
|  | 2018 | Curtin University | Information Systems | PhD |
|  | 2011 | Al-Balqa Applied University | Computer Science | MSc |
|  | 2006 | Qatar University | Computer Science | BSc |

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|  | **Specialization and domain of interest** |

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|  | Data Science | **Specialization** |
|  | Machine Learning, Data Mining, Knowledge Graphs, Relational Learning, Semantic Web, Ontology engineering, Information Extraction, and the like. | **Domain of interest** |

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|  | **Specialization and domain of interest** |

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|  | **Title and abstract of the doctoral thesis (within 150 words)** |
|  | **Title:** Trustworthiness in Social Big Data Incorporating Semantic Analysis, Machine Learning and Distributed Data Processing |
|  | **Abstract**: The proliferation of Online Social Networks (OSNs) has opened new horizons and brought profound changes to various aspects of human, cultural, intellectual, and social life. These significant Big Data (BD) tributaries have further transformed the businesses processes by establishing convergent and transparent dialogues between businesses and their customers. Therefore, analysing the flow of Social Big Data (SBD) content is necessary in order to enhance business practices, to  increase brand awareness, to develop insights on target markets, to detect and identify positive and negative customer sentiments, etc., thereby achieving the hoped-for added value. However, due to the vast amount of information produced by these platforms, in conjunction with the lack of a gatekeeper for those sites, it is difficult to verify the credibility of their content and users. Therefore, the OSNs are hijacked, and their otherwise valuable tools are used to spread chaos and false news. Hence, it is essential to have an accurate understanding of the contextual content of social users, in order to establish a ground for measuring their social credibility accordingly. Further, it is important to classify users and their content into appropriate categories  prior to undertaking further business analytics.  Considerable achievements have been made in SBD analytics motivated by the need for efficient and effective social data analytics solutions. In particular, several studies have been carried out in the areas of social trust, semantic analysis, machine learning and social data classification within the context of SBD. However, the efforts in these areas have shown shortcomings in terms of: (i) the lack of domain-based trustworthiness approaches; (ii) their inability to manage and extract high-level domains from the textual content of SBD; and (iii) the lack of domain-based approaches for dual classification of the textual content of SBD at the user level and  post level.  This thesis presents several state-of-the-art approaches for social data analytics in order to address the aforementioned research problems. The frameworks have been constructed for the purpose of studying the trustworthiness of users in OSNs platforms, deriving concealed knowledge from their textual content, and classifying and predicting the domain knowledge of users and their content. The contribution of this thesis is threefold: (i) an effective and an efficient credibility framework for users of OSNs addressing the key features of BD, and incorporating semantic analysis and the temporal factor, (ii) a semantic analysis-based approach to extract knowledge captured from the textual content of SBD at user level and post level, and (iii) an integrated framework incorporating domain knowledge discover tools and machine-learning-based data classification techniques in the quest for domain-based discovery, classification and prediction. The developed approaches are refined through proof-of-concept experiments, several benchmark comparisons, and appropriate and rigorous evaluation metrics to verify and validate their effectiveness and efficiency, and hence, those of the applied frameworks. |
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|  | **Career Experience** |

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|  | **Date** | **Place of work** | **Job Title** |
|  | Jan 2019 – present | The University of Jordan, Jordan | Assistant  Professor |
|  | Jan 2015 – Dec 2018 | Curtin University, Australia | Instructor and Research Associate |
|  | Jan 2018 – Dec 2018 | Edith Cowan University, Australia | Lecturer |
|  | Mar 2014 – Mar 2016 | HBA Investment Group Pty Ltd, Australia | Systems Engineer |
|  | Jul 2009 – Mar 2014 | Securities Depository Centre, Jordan | Senior Oracle and Web Developer |
|  | Oct 2007 – Jan 2009 | Jordan Investment Board, Jordan | Systems Developer |

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|  | **Administrative works and committees** |

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|  | **Date** | **Administrative work and committee** |
|  | Mar 2021 – Sep 2021 | Assistant Dean for Laboratory Affairs |
|  | 2019 - present | Department and Faculty committees |

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|  | **Recent Publications within last five years** |

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|  | **Research title, Publisher, Date** | **Name of researcher** |
|  | Social Big Data Analytics: Practices, Techniques, and Applications. Springer Nature. 2021 | B. Abu-Salih, et al. |
|  | “Domain-specific knowledge graphs: A survey", *Journal of Network and Computer Applications* (JNCA), Vol. 185, Issue: 1, <https://doi.org/10.1016/j.jnca.2021.103076> , **2021** | B. Abu-Salih. |
|  | “Relational Learning Analysis of Social Politics using Knowledge Graph Embedding”, *Data Mining and Knowledge Discovery* 35, 1497–1536,  <https://doi.org/10.1007/s10618-021-00760-w>, 2021 | B. Abu-Salih, et al. |
|  | “Use of social networking in the Middle East: student perspectives in higher education”, *Heliyon*, Volume 7, Issue 4, <https://doi.org/10.1016/j.heliyon.2021.e06676>, **2021** | Issa, T., Alqahtani, S.G.B., Al-Oqily, I., Goktalay, S.B., Köse, U., Issa, T., B. Abu-Salih. and Almufaraj, W.K. |
|  | “An Evolutionary-based Random Weight Networks with Taguchi Method for Arabic Web Pages Classification”, *Arabian Journal for Science and Engineering*, 46 (4), 3955-3980, <https://doi.org/10.1007/s13369-020-05301-z>, 2021 | Shawabkeh, A., Faris, H., Aljarah, I., **Abu-Salih, B.,** Alboaneen, D., & Alhindawi, N. |
|  | “Toward a Knowledge-based Personalised Recommender System for Mobile App Development”, *Journal of Universal Computer Science 27 (2), 208-229*, doi: 10.3897/jucs.65096, 2021 | **B. Abu-Salih,** et al. |
|  | Developing and Assessing a Holistic eLearning 4.0 Model for Higher Education in Saudi Arabia." eLmL 2021: The *Thirteenth International Conference on Mobile, Hybrid, and On-line Learni.* 2021. | M Alnassar, T Issa, SZ Nau, **B. Abu Salih** |
|  | “Time-aware domain-based social influence prediction", *Journal of Big Data (JBD),* *Vol. 7 Issue: 1,* [*https://doi.org/10.1186/s40537-020-0283-3*](https://doi.org/10.1186/s40537-020-0283-3), **2020.** | **B. Abu-Salih**, et al. |
|  | "Affective Design using machine learning: A survey and its prospect of conjoining big data*". International Journal of Computer Integrated Manufacturing*, <https://doi.org/10.1080/0951192X.2018.1526412>. **2020.** | K. Chan, C.K. Kwong, P. Wongthongtham, H. Jiang, C. K.Y. Fung, **B. Abu-Salih**, Zhixin Liu, T.C. Wong & P. Jain. |
|  | “Unlocking Social Media and User Generated Content as a Data Source for Knowledge Management", *International Journal of Knowledge Management (IJKM),* *Vol. 16 Issue: 1, pages: 101-122,* [*https://doi.org/10.4018/IJKM.2020010105*](https://doi.org/10.4018/IJKM.2020010105), **2020.** | J. Meneghello, N. Thompson, K. Lee, **B. Abu-Salih**. |
|  | "CredSaT: Domain-based Credibility Ranking of Users in Big Social Data incorporating Semantic Analysis and Temporal Factor", *Journal of Information Science (JIS)*, <https://doi.org/10.1177/0165551518790424>, **2019.** | **B. Abu-Salih**, et al. |
|  | "Social Credibility Incorporating Semantic Analysis and Machine Learning: A Survey of the State-of-the-Art and Future Research Directions," in The 33rd IEEE International Conference on Advanced Information Networking and Applications (IEEE AINA 2019), Kunibiki Messe, Matsue, Japan, **2019.** | **B. Abu-Salih**, et al., |
|  | "Twitter Mining for Ontology-based Domain Discovery Incorporating Machine Learning", *Journal of Knowledge Management (JKM),* *Vol. 22 Issue: 5, pp.949-981,* <https://doi.org/10.1108/JKM-11-2016-0489> , **2018.** | **B. Abu-Salih**, et al. |
|  | "Ontology-based Approach for Identifying the Credibility Domain in Social Big Data ", *Journal of Organizational Computing and Electronic Commerce*, *28.4 (2018): 354-377*, <https://doi.org/10.1080/10919392.2018.1517481>, **2018.** | P. Wongthongtham and **B. Abu-Salih.** |
|  | “State-of-the-Art Ontology Annotation for Personalised Teaching and Learning and Prospects for Smart Learning Recommender Based on Multiple Intelligence and Fuzzy Ontology”. *International Journal of Fuzzy Systems*. 20: 1357. <https://doi.org/10.1007/s40815-018-0467-6> .**2018.** | P. Wongthongtham, K. Y. Chan, V. Potdar. **B. Abu-Salih**, S. Giakwad, J. Pratima. |
|  | "Tree-based Classification to Users’ Trustworthiness in OSNs", in 10th International Conference on Computer and Automation Engineering (ICCAE 2018), **2018.** | R. Nabipourshiri**, B. Abu-Salih,** P. Wongthongtham. |
|  | “Analysis of Scientific Production of IoE Big Data Research”, 2018 32nd International Conference on Advanced Information Networking and Applications Workshops (WAINA), Krakow, 2018, pp. 715-720. doi: 10.1109/WAINA.2018.00173, **2018** | J. Kaur, P. Wongthongtham, **B. Abu-Salih,** S. Fathy. |
|  | “Impact of Web 2.0 Technology on Students with Learning Difficulties: A State-of-the-Art and Future Challenges”, in the 2018 32nd International Conference on Advanced Information Networking and Applications Workshops (WAINA), Krakow, 2018, pp. 693-697. doi: 10.1109/WAINA.2018.00169. **2018** | M. Alhabashneh, **B. Abu-Salih,** S. Knight. |
|  | "An Approach for Time-Aware Domain-Based Analysis of Users’ Trustworthiness in Big Social Data", Services Transactions on Big Data (STBD) 2(1): 2015, pp. 41-56. **2015** | **B. Abu-Salih**, P. Wongthongtham, Z. Dengya, SH.Alqrainy. |
|  | "A Preliminary Approach to Domain-based Evaluation of Users’ Trustworthiness in Online Social Networks," in IEEE International Congress on Big Data (BigData Congress-2015), New York, USA, **2015**. | **B. Abu-Salih**, P. Wongthongtham, S.-M.-R. Beheshti, and Z. Dengya. |
|  | "Towards A Methodology for Social Business Intelligence in the era of Big Social Data incorporating Trust and Semantic Analysis" in Second International Conference on Advanced Data and Information Engineering (DaEng-2015), ed. Bali, Indonesia: Springer, **2015**. | **B. Abu-Salih,** P. Wongthongtham, S.-M.-R. Beheshti, and B. Zajabbari. |

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|  | **Scientific conferences and symposia** |

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|  | **Type of participation** | **Place and date of conference** | **Conference Title** |
|  | Program Committee | Toronto, Canada, July 19-21, 2019 | International Conference on Social Media & Society |
|  | Program Committee | * San Francisco, 25-26 October 2019 * BC, Canada, 13-14 November 2018 | Future Technologies Conference (FTC) |
|  | Program Committee | * London, UK, July 15- 16, 2021 * Virtual Event July 16-17 2020 * London, UK, July 16-17, 2019 | Computing Conference |
|  | Program Committee | Porto, Portugal, September 22-26, 2019 | International Conference on Data Analytics |
|  | Technical Committee | Shanghai, China from June 19-21, 2021, | International Conference on Data Processing and Applications |

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|  | **Training courses** |

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|  | **Date** | **Name of course** |
|  | 2018 | Python Advanced |
|  | 2013 | Oracle Forms & Reports Developer 10g: Move to the Web |
|  | 2011 | Java Course (J2SE) |
|  | 2010 | PHP Advance Course |
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|  | **Teaching activities** |

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| **Graduate** | **Bachelor** | **Taught Courses** |
| ✓ |  | Data Mining and Business Intelligence |
| ✓ |  | Knowledge Management and Intelligent Systems |
| ✓ |  | Databases and Business Intelligence |
|  | ✓ | Introduction to Information Systems |
|  | ✓ | Business Software Tools |
|  | ✓ | Business Application Design |
|  | ✓ | Business Applications |
|  | ✓ | Programing Techniques in Special Languages |
|  | ✓ | Computer Skills for Scientific Faculties |
|  | ✓ | Object Oriented and Data Structure |
|  | ✓ | Discrete Mathematics |

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|  | **Membership in scientific and professional bodies and societies** |

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|  | **Date** | **Name and place of scientific body and society** |
|  | 2017- present | Australian Computer Society |
|  | 2018 - present | Institute of Electrical and Electronics Engineers (IEEE) |
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|  | **Awards** |

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|  | **Date** | **Donor and place of award** | **Name of Award** |
|  | 2018 | Curtin University, WA, Australia | Formative Peer Review of Educational Practice Certificate |
|  | 2017 | Curtin University, WA, Australia | Research Stipend Scholarship from Curtin Institute for Computation (CIC), |
|  |