

# Dr. Roobaea Salim Alroobaea



**Current Rank:** Associate Professor,  
**Specialization:** Computer sciences/ Information Technology  
**Nationality:** Saudi Arabia  
**Marital Status:** Married  
**Contact Number(S):** +966- 556424211  
**Email:** [r.robai@tu.edu.sa](mailto:r.robai@tu.edu.sa)  
[mr.robai@gmail.com](mailto:mr.robai@gmail.com)

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## CURRENT SITUATION

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- **Associate Professor** at Taif University, College of Computers and Information Technology, KSA. (Accredited by ABET) from 2020 to present.
- **Assistant professor** at Taif University, College of Computers and Information Technology, KSA. (Accredited by ABET) from 2017 to 2020.

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## ACADEMIC QUALIFICATIONS

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- **2011-2016:** PhD in Computer Science from University of East Anglia, UK.
- **2010-2011:** Master of Science in Information System from University of East Anglia, UK.
- **2003-2007:** Bachelor of Science in Computer Science (GPA: 4.59/5) from King Abdulaziz University, Saudi Arabia.

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## PROFESSIONAL CERTIFICATION

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- Certificate in CCNA 1\_ Networking Basics
- Certificate in Administrative leadership (workshop)
- Certificate of completion python language course from Misk Foundation.
- Certificate of completion JavaScript language course from Misk Foundation.
- Certificate of completion Make Code language course from Misk Foundation.
- Ambassador Certification of SaudiCodes on the Saudi platform.
- Certificate of Completion Training Course on programmatic transformation from Taif University- Deanship of University Development - Taif University 17/6/1438-14/02/2017.
- Certification of attendance in Preparation and development of academic programs from Deanship of University Development - Taif University-1/5/2017-28/7/1438.
- Certification from Stanford University online in successfully completed Machine Learning course.
- Certification from DataCamp in successfully completed Introduction to Python

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## EXPERIENCE

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- **2017 - 2020:** Assistant professor, Taif university - College of Computers and Information Technology (Accredited by ABET).
- **2008-2009:** Assistant, Taif university - College of Computers and Information Technology (Accredited by ABET).
- **2007-2008:** Trainer, King Abdulaziz University (Accredited by ABET).

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## RESEARCH GROUP

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- 1- Chair of National Research Group at Taif University
  - 2- Member of International Research Group
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## TEACHING INTEREST

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- Data structures,
- Object Oriented Programming with C#,
- Programming 1, Programming2
- Algorithmic and Programming in C+,
- Data warehouse,
- Distributed Systems,
- Software Engineering,
- Software Architecture,
- Human Computer Interaction,
- Computer Networks Security
- Embedded Systems,
- Artificial Intelligence,
- Machine Learning,
- Capstone Projects 1 & 2
- Introduction to Problem Solving

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## RESEARCH AREAS

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My research interests in Computer Science and Information Technology, include: Data Science, Cloud Computing with security, Human Computer Interaction, and Internet of Things.

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## RESEARCH PROJECTS, GRANTS, CONSULTING

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1. Supervised Machine Learning of KFCG Algorithm and MBTC features for efficient classification of Image Database and CBIR Systems. Funded by **Taif University**, KSA, 2017/2018. (**PI: Roobaea Alroobaea**). **Fund No: 1-438-6015**
2. Detection of single-trial EEG of the neural correlates of familiar faces recognition using machine-learning algorithms, Funded by Taif University, KSA, 2017/2018. (**Co-PI: Roobaea Alroobaea**). **Fund No: 1-438-6034**
3. Mobility Prediction in Pervasive Context-Awareness System. Funded by **Taif University**, KSA, 2016/2017. (**Co-PI: Roobaea Alroobaea**). **Fund No: 1-438-5**
4. Automated Drowsiness Detection Through Facial Features Analysis. Funded by **Taif University**, KSA, 2017/2018. (**Co-PI: Roobaea Alroobaea**). **Fund No: 1-438-5876**
5. An Empirical Comparison for the Efficiency and Effectiveness of Genetic Algorithms and Adaptive Random Techniques in Mutation Testing. Funded by **Qassim University**, KSA, 2018/2019. (**Co-PI: Roobaea Alroobaea**). **Fund No: alrasscac-2018-1-14-s-3997**
6. Location prediction in a smart environment. Funded by **Taif University**, KSA, 2018/2019. (**Co-PI: Roobaea Alroobaea**). **Fund No:1-439-9054**
7. Network Anomaly Intrusion Detection Using a Nonparametric Bayesian Approach and Feature Selection. Funded by **Taif University**, KSA, 2018/2019. (**Co-PI: Roobaea Alroobaea**). **Fund No:1-439-6115**
8. Flexible Statistical Learning Model for Unsupervised Image Modeling and Segmentation. In: Bouguila N., Fan W. (eds) Mixture Models and Applications. Unsupervised and Semi-Supervised Learning. Funded by **Gulf College, Muscat, Sultanate of Oman**, 2019/2020. (**Co-PI: Roobaea Alroobaea**). **Fund No: RGP / ICT / 18/186**

9. Efficient Statistical Learning Framework with Applications to Human Activity and Facial Expression Recognition. Funded by **Gulf College, Muscat, Sultanate of Oman**, 2019/2020. (Co-PI: Roobaea Alroobaea). Fund No: RGP / ICT / 18/183

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## **PUBLICATIONS**

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### **INTERNATIONAL JOURNALS:**

1. Alroobaea, R (2020). An empirical combination of machine learning models to enhance author profiling performance. International Journal of Advanced Trends in Computer Science and Engineering. Vol.9 No.2. (Scopus).
2. Seifeddine Mechti, Roobaea Alroobaea, Moez Krichen, Saeed Rubaiee, Anas Ahmed, "Deep Learning Model for Identifying the Arabic Language Learners based on Gated Recurrent Unit Network" International Journal of Advanced Computer Science and Applications (IJACSA), 11(5), 2020. (ISI).
3. Almansour, F.M., Alroobaea, R. and Ghiduk, A.S., 2020. An Empirical Comparison of the Efficiency and Effectiveness of Genetic Algorithms and Adaptive Random Techniques in Data-Flow Testing. IEEE Access, 8, pp.12884-12896. (ISI)
4. Bourouis, Sami, **Roobaea Alroobaea**, Saeed Rubaiee, and Anas Ahmed. "Toward Effective Medical Image Analysis Using Hybrid Approaches—Review, Challenges and Applications." *Information* 11, no. 3 (2020): 155. (ISI)
5. Alroobaea, R., Bourouis, S., Rubaiee, S., and Alsufyani, A., 2020, Bayesian Inference Framework for Bounded Generalized Gaussian-based Mixture Model and its Application to Biomedical Images Classification. International Journal of Imaging Systems and Technology. (ISI)
6. Alhakami, W., ALharbi, A., Bourouis, S., Alroobaea, R. and Bouguila, N., 2019. Network Anomaly Intrusion Detection Using a Nonparametric Bayesian Approach and Feature Selection. IEEE Access, 7, pp.52181-52190. (ISI)
7. Wael Ali Alosaimi, Ahmed Binmahfoudh, Roobaea Alroobaea and Atef Zaguia, "Location Prediction in a Smart Environment" International Journal of Advanced Computer Science and Applications (IJACSA), 10(3), 2019. <http://dx.doi.org/10.14569/IJACSA.2019.0100334>. (Scopus).
8. Mahdi, W., Akrouf, B., Alroobaea, R. and Alsufyani, A., 2019. Automated Drowsiness Detection Through Facial Features Analysis. *Computación y Sistemas*, 23(2), pp.511-522. (Scopus).
9. Lahami, M., Krichen, M. and Alroobaea, R., 2019. TEPaaS: test execution platform as-a-service applied in the context of e-health. International Journal of Autonomous and Adaptive Communications Systems, 12(3), pp.264-283. (Scopus).
10. Bourouis, S., Zaguia, A., Bouguila, N. and Alroobaea, R., 2019. Deriving Probabilistic SVM Kernels From Flexible Statistical Mixture Models and its Application to Retinal Images Classification. IEEE Access, 7, pp.1107-1117. (ISI).
11. Alsufyani, A., Hajilou, O., Zoumpoulaki, A., Filetti, M., Alsufyani, H., Solomon, C.J., Gibson, S.J., Alroobaea, R. and Bowman, H., 2018. "Breakthrough percepts of famous faces". *Psychophysiology*, p.e13279. (ISI).
12. Cheikhrouhou, O., M Bhatti, G. and Alroobaea, R., 2018. "A Hybrid DV-Hop Algorithm Using RSSI for Localization in Large-Scale Wireless Sensor Networks". *Sensors*, 18(5), p.1469. (ISI)
13. Muhammad, G., Masud, M., Amin, S.U., Alroobaea, R. and Alhamid, M.F., 2018. Automatic Seizure Detection in a Mobile Multimedia Framework. IEEE Access, 6, pp.45372-45383. (ISI).
14. Belhassen, Alroobaea and Alsufyani, 2019. Automated Drowsiness Detection Through Facial Features Analysis. *Computación y Sistemas*, 24(1) (Scopus).
15. Atef Zaguia and Roobaea Alroobaea, 2019, "Ontological Model to Predict user Mobility" International Journal of Advanced Computer Science and Applications (IJACSA), 10(2),. <http://dx.doi.org/10.14569/IJACSA.2019.0100253>. (ISI).

16. Algarni, S.A., Ikbal, M.R., Alroobaea, R., Ghiduk, A.S. and Nadeem, F., 2018. "Performance Evaluation of Xen, KVM, and Proxmox Hypervisors". *International Journal of Open Source Software and Processes (IJOSSP)*, 9(2), pp.39-54. (Scopus)
17. Mira, M.T., Rubaiee, S., Ahmed, A.A.M., Alroobaea, R. and Ghiduk, A.S., 2018. "Fuzzy Logic Based Model For Optimizing Inventory Cost". *International Information Institute (Tokyo). Information*, 21(3), pp.1161-1176. (Scopus)
18. Alroobaea, R. 2018. " Factors in the Design, Implementation and Usability Evaluation of Online Clearance System: A Case Study of Taif University". *International Information Institute (Tokyo). Information*, 21(3), pp.1161-1176. (Scopus)
19. Alqurni, J., Alroobaea, R. and Alqahtani, M., 2018." Effect of User Sessions on the Heuristic Usability Method". *International Journal of Open Source Software and Processes (IJOSSP)*, 9(1), pp.62-81. (Scopus)
20. Muhammad, G., Masud, M., Amin, S.U., Alrobaea, R. and Alhamid, M.F., 2018. "Automatic Seizure Detection in a Mobile Multimedia Framework". *IEEE Access*, 6, pp.45372-45383. (ISI)
21. Zaguia, A., Amedey, D., Guessoum, D., Mahfoudhi, A. and Alrobaea, R., 2018. "Mobility Prediction in Pervasive Context-Awareness System". *International Journal of Applied Engineering Research*, 13(9), pp.6594-6607. (Scopus)
22. Alroobaea, R., Alsufyani, A., Ansari, M.A., Rubaiee, S. and Algarni, S., 2018. "Supervised Machine Learning of KFCG Algorithm and MBTC features for efficient classification of Image Database and CBIR Systems". *International Journal of Applied Engineering Research*, 13(9), pp.6795-6804. (Scopus)
23. Alosaimi, W., Zak, M., Al-Begain, K., Alroobaea, R. and Masud, M., 2017. "Economic Denial of Sustainability Attacks Mitigation in the Cloud". *International Journal of Communication Networks and Information Security (IJCNIS)*, 9(3). (Scopus)
24. Alosaimi, W., Zak, M., Al-Begain, K., Alroobaea, R. and Masud, M., 2017. "Mitigation of Distributed Denial of Service Attacks in the Cloud". *Cybernetics and Information Technologies*, 17(4), pp.32-51. (Scopus)
25. Alsaedi, A., Alroobaea, R. and Chakaveh, S., 2017, Twitter-based reporting system for public infrastructure in Saudi Arabia. *Journal of Technology Research*.
26. Alotaibi, T., Nazir, A., Alroobaea, R., Alotibi, M., Alsubeai, F., Alghamdi, A. and Alsulimani, T.,2018 "Saudi Arabia Stock Market Prediction Using Neural Network". *International Journal on Computer Science and Engineering (IJCSE)*.
27. Alqahtani, M. A., Alhadreti, O., AlRoobaea, R. S., & Mayhew, P. J. (2015). Investigation into the Impact of the Usability Factor on the Acceptance of Mobile Transactions: Empirical Study in Saudi Arabia. *International Journal of Human Computer Interaction (IJHCI)*, 6(1), 1.
28. AlRoobaea, R. Al-Badi, A. Mayhew P. (2013). A Framework for Generating Domain-Specific Heuristics for Evaluating Online Educational Websites. *International Journal of Information Technology & Computer Science*, Volume 8,page 75 - 84.
29. AlRoobaea, R. Al-Badi, A. Mayhew P. (2013). A Framework for Generating Domain-Specific Heuristics for Evaluating Online Educational Websites- Further Validation. *International Journal of Information Technology & Computer Science*, volume 8, page 97 - 105.
30. AlRoobaea, R., Al-Badi, A., & Mayhew, P. (2013). Generating a Domain Specific Inspection Evaluation Method through an Adaptive Framework: A Comparative Study on Educational Websites. *International Journal of Human Computer Interaction (IJHCI)*, 4(2), 88.
31. AlRoobaea, R., Al-Badi, A. H., & Mayhew, P. J. (2013). Generating a Domain Specific Inspection Evaluation Method through an Adaptive Framework. *International Journal of Advanced Computer Science and Applications*, 4(6). (Scopus)
32. Roobaea AlRoobaea, Ali H. Al-Badi and Pam J. Mayhew (2013), " The Impact of the Combination between Task Designs and Think-Aloud Approaches on Website Evaluation" *Journal of Software and Systems Development*, Vol. 2013 (2013), Article ID 172572, DOI: 10.5171/2013. 172572
33. AlRoobaea, R., Al-Badi, A. H., & Mayhew, P. J. (2013). Generating an Educational Domain Checklist through an Adaptive Framework for Evaluating Educational Systems. *International Journal of Advanced Computer Science and Applications*, 4(8). (Scopus)

34. Ali H. Al-Badi, Michelle, O. Okam, Roobaea Al Roobaea and Pam J. Mayhew (2013), "Improving Usability of Social Networking Systems: A Case Study of LinkedIn," *Journal of Internet Social Networking & Virtual Communities* , Vol. 2013 (2013), Article ID 889433, DOI: 10.5171/2013.889433.
35. Alrobai, A. AlRoobaea, R. Al-Badi, A., Mayhew, P. (2012). Investigating the usability of e-catalogue systems: modified heuristics vs. user testing, *Journal of Technology Research*.
36. Alghamdi, A., Al-Badi, A., Al Roobaea, R., & Mayhew, P. (2013). A Comparative Study of Synchronous and Asynchronous Remote Usability Testing Methods. *International Review of Basic and Applied Sciences*, 1(3).
37. Roobaea AlRoobaea, Ali H. Al-Badi and Pam J. Mayhew, "Generating a Domain Specific Checklist through an Adaptive Framework for Evaluating Social Networking Websites" *International Journal of Advanced Computer Science and Applications (IJACSA)*, Special Issue on Extended Papers from Science and Information Conference 2013, 2013. (Scopus)

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### **INTERNATIONAL CONFERENCES:**

1. Sami Bourouis, Roobaea Alroobaea "Efficient Statistical Learning Framework with Applications to Human Activity and Facial Expression Recognition" submitted to the 5th international Conference on Advanced Technologies for Signal & Image Processing ATSSIP'2020"(2020) (Scopus).
2. R. Alroobaea, "A Formal Approach To Validate Block-Chains" submitted to International Conference on Advances in the Emerging Computing Technologies, IEEE, (2020).
3. Krichen, M. and Alroobaea, R., 2019, November. Towards Optimizing the Placement of Security Testing Components for Internet of Things Architectures. In *2019 IEEE/ACS 16th International Conference on Computer Systems and Applications (AICCSA)* (pp. 1-2). IEEE.
4. Krichen, M. and Alroobaea, R. (2019). A New Model-based Framework for Testing Security of IoT Systems in Smart Cities using Attack Trees and Price Timed Automata. In *Proceedings of the 14th International Conference on Evaluation of Novel Approaches to Software Engineering - Volume 1: ENASE*, ISBN 978-989-758-375-9, pages 570-577. DOI: 10.5220/0007830605700577(Scopus)
5. Krichen, M.; Alroobaea, R. and Lahami, M. (2019). Towards a Runtime Standard-based Testing Framework for Dynamic Distributed Information Systems. In *Proceedings of the 21st International Conference on Enterprise Information Systems - Volume 1: ICEIS*, ISBN 978-989-758-372-8, pages 121-129. DOI: 10.5220/0007772101210129. (Scopus)
6. M. Lahami, M. Krichen and R. Alroobaea, "Towards a Test Execution Platform As-A-Service: Application in the E-Health Domain," 2018 International Conference on Control, Automation and Diagnosis (ICCAD), Marrakech, Morocco, 2018, pp. 1-6. doi: 10.1109/CADIAG.2018.8751337. (Scopus)
7. Krichen, M., Cheikhrouhou, O., Lahami, M., Alroobaea, R. and Maâlej, A.J., 2017, November. Towards a Model-Based Testing Framework for the Security of Internet of Things for Smart City Applications. In *International Conference on Smart Cities, Infrastructure, Technologies and Applications* (pp. 360-365). Springer, Cham. (Scopus)
8. Alroobaea, R., 2017, June. Developing Specific Usability Heuristics for Evaluating the Android Applications. In *International Conference on Mobile and Wireless Technology* (pp. 139-147). Springer, Singapore. (Scopus)
9. Alhadreti, O., AlRoobaea, R., Wnuk, K., & Mayhew, P. J. (2014, May). The Impact of Usability of Online Library Catalogues on the User Performance. In *Information Science and Applications (ICISA)*, 2014 International Conference on (pp. 1-4). IEEE. (Scopus)
10. AlRoobaea, R. S & Mayhew, P. J. (2014). The Impact of Usability on E-Marketing Strategy in International Tourism Industry. In *Science and Information Conference (SAI)*, 2014. IEEE. (Scopus)
11. AlRoobaea, R. S & Mayhew, P. J. (2014). How Many Participants Are Really Enough for Usability Studies. In *Science and Information Conference (SAI)*, 2014. IEEE. (Scopus)
12. Alqahtani, M. AlRoobaea, R. S & Mayhew, P. J. (2014). Building a Conceptual Framework for Mobile Transaction in Saudi Arabia a User's Perspective. In *Science and Information Conference (SAI)*, 2014. IEEE. (Scopus)

13. AlRoobaea, R. S., Al-Badi, A. H., & Mayhew, P. J. (2013). A framework for generating a domain specific inspection evaluation method: A comparative study on social networking websites. In Science and Information Conference (SAI), 2013 (pp. 757-767). IEEE. (Scopus)

## **BOOK CHAPTER**

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- 1- Channoufi I. et al. (2020) Flexible Statistical Learning Model for Unsupervised Image Modeling and Segmentation. In: Bouguila N., Fan W. (eds) Mixture Models and Applications. Unsupervised and Semi-Supervised Learning. Springer, Cham
- 2- Mehmood, R., See, S., Katib, I. and Chlamtac, I., 2019. Smart Infrastructure and Applications: Foundations for Smarter Cities and Societies. Springer.

## **STUDENT ADVISING AND EXAMINING**

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- Advisor for 30 of bachelor students from 2016-now
  - Examiner and supervisor for many Capstone Projects 1 & 2, 2016-now
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## **COMMUNITY SERVICES AND COMMITTEES MEMBERSHIPS**

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### Reviewer of Journals:

- IEEE Access - IEEE
- Journal of King Saud University – Elsevier
- Sensors Journal

### Volunteer:

- Certificate of attendance for administrative leadership workshop, UK
- President of Saudi Society at University of East Anglia for two years: 2015 and 2016
- President of Saudi club at Norwich city- UK: 2015
- Hold the position of student volunteer at the BCS HCI 2012 in Birmingham, UK from 10th-14th September 2012.

### Awards

- Excellent - Second Honors in bachelor's degree
- Six awards from Saudi Cultural Bureau in the UK regarding of scientific excellence in research from 2010 to 2015
- Invited by HRH Prince Mohammed bin Nawaf Al Saud, Saudi Ambassador to the UK, to attend a ceremony to reward high achieving Saudi students in UK. I was one of the 70 Saudi students who received the Saudi High Achieving Students Award: 2013.

## **MEMBERSHIPS**

- Membership in INSTICC with number 16506 in Institute for Systems and Technologies of Information, Control and Communication
- IEEE Membership with number 96113345

## **SERTIFICATION OF THANKS & APPRECIATION**

- Certification in attending workshop titled" Investing in data science 2019" managed by National Center for Assessment.11/12/2019.
- Involving in organization committee the event in Taif University, Receiving Certification in excellence of Campaign of "My Success and Entrepreneurship", Taif University.

- Certification in participation in sessions and activities of The Second National Conference of Colleges of Computing and Information in Saudi Universities, 22-23/11/2017,25-26/5/1438.
- Certification in excellence of Taif University Startups Race 2018, Souq Okaz.
- Certification in participation of activities of Saudi Commission for Tourism and National Heritage 2017 at Souq Okaz.
- Certification in giving seminar about Human and Artificial Intelligence at Bader Technology Incubator. 2019
- Certification in giving workshop about Data Science Research Process at Taibah University. 16/6/1441. 10/2/2020.
- Thankful Certification from Social care home at Taif city to visit them with students from College of Computers & Information Technology, 30/7/1439.

### Committees and Positions

- Chair of Research Support and Systems at Deanship of Scientific Research,2017, Taif University
- Chair of PAC Office Committee at College of Computers and Information Technology,2016-2018, Taif University
- Member in Training Courses and Cultural Committee at College of Computers and Information Technology,2016-2018 Taif University
- Member in Center for Entrepreneurship and Innovation, 2017-2018. Taif University
- Member in Scientific Committee at Deanship of Scientific Research, 2017, Taif University.
- Member in Complaints Committee in Computer Science Department, 2016- now, Taif University.
- Member in Capstone Projects Committee in College of Computers and Information Technology, Taif University, 2016-2018.
- Chair of Students Affairs in Computer Science Department in College of Computers and Information Technology, Taif University, 2019-present.
- Chair of the Technical Committee in the initiative of Taif University Codes in College of Computers and Information Technology, Taif University, 2019-present.

### LANGUAGE

**Arabic** (native), **English**.