

CURRICULUM VITAE

Salah Bouktif

Associate Professor

College of Information Technology, United Arab Emirates University

I. EDUCATION

Polytechnic Engineering School of Montreal, Quebec, Canada

- Postdoctoral Studies Software engineering department, **October** 2005-August 2007

University of Montreal (GEODES Laboratory), Canada

Ph.D. in Computer Science, Software Engineering (June 2005).

University of Tunis-Manouba, National School of Computer Studies (ENSI), Tunisia

- M.Sc. in Computer Science, Area of Industrial Computer Science (June 1996).
- Engineer Diploma in Computer Science, Major Software Development (June 1994).

II. PROFESSIONAL EXPERIENCE

Program Coordinator, Master of Science in Software Engineering, College of information Technology, (CIT) United Arab Emirates University (UAEU), Al Ain, UAE, August 2019 – present (**More Than 4 Years**)

Associate Professor, Software Engineering Track, College of Information Technology (CIT), United Arab Emirates University (UAEU), Al Ain, UAE, August 2014 – present

Assistant Professor, Software Engineering Track, College of Information Technology (CIT), United Arab Emirates University (UAEU), Al Ain, UAE, August 2007 – August 2014

Postdoctoral Scholar, Soccer Lab, Department of Software engineering, Polytechnic Engineering School, Montreal, Canada, October 2005 – July 2007.

Part-time Instructor, Department of Software engineering, Polytechnic Engineering School, Montreal, Canada, October 2004– July 2007.

Teaching Assistant, Department of Computer Science and Operational, University of Montreal January 2000– April 2004.

Part-time Instructor, Department of Electrical Engineering, Higher Institute of Technology of Rades, University of Tunis I, Tunisia, September 1996 - June 1999.

Senior engineer in Computer Science, The National Company of Tunisian Railroads (SNCFT), Tunis, Tunisia June 1996- December 1999. As a project manager, my mission in the SNCFT was to prepare the infrastructure for installation of the computer-assisted maintenance management system. Therefore my activities were numerous; they include maintenance and LAN wiring follow-up, developing applications for data migration, preparing and achieving staff training. The cost of the entire managed project was 1200, 000 US \$.

III. RESEARCH

1. Research Interests

In my research interests, I focus on developing Artificial Intelligence methods to help decision making in different domain including software engineering activities that was my first target (e.g., Machine learning for software quality assurance, Search Based Software Engineering for software testing and refactoring). Search-based techniques are also customized in the following research paths:

- **AI based Software Testing and Software Security**
- **AI based Software Change, Evolution and Quality Prediction and Improvement**
 - Software maintenance Change tracking, cost-effective evolution, Software quality
- **AI based Service Oriented Software Engineering**
- Web Service quality and testing, SOA architectures, Web services composition and federation

In order to serve the strategic research plans of UAE University that supports cutting-edge interdisciplinary research, my research interests have been extended to include:

- **Artificial Intelligence and Data Mining applied to Energy Consumption**
- **Machine learning and metaheuristics for stock market prediction**
- **Meta-heuristics and Data Mining applied to Urban Traffic and Transportation**

1. Summary of Research Achievements

- **H-index: 22**
- **citations count: 2269**
- **Published near 70 papers in high quality journals, conferences, and book chapters, 28 in high quality refereed journals With Impact Factor/ SJR**
- **21 of them are in Q1(top %5, 10%, top 25%) ranking:**
 - 1 article is a top %5 journal,
 - 6 articles is top %10 journals
 - 12 articles is top %10 - 25% journals
 - 79% of my articles are in Top Q1 journals
 - 3 ACM transactions.
- 40 publications in refereed conference proceedings,
- 21 out of 40 conference papers are class A conferences
- 34 out of 40 papers are Scopus indexed
- Won the best Paper Award for the Q1 Journal Energies 2018 (IF 2.707) awarded in May 2020
- **Won the best Paper Award for the Q1 Journal MDPI Energies 2018 (IF 2.707) awarded in May 2020**
- **PI of an External ASPIRE 2021 Award 965,000 AED, a very competitive grant from the Advanced Technology Research Council (ATRC) of the government of Abu Dhabi (2022-2025), with an approximate acceptance rate of 5%.**
- **PI of an External ADEK 2018 Award 300,000 AED, a very competitive grant awarded by Abu Dhabi Education and Knowledge Council 2018-2020. I was the sole winner among 18 proposal submitters from the College of information technology, with an acceptance rate less than %5.**
- Won Best Paper Award GECCO 2011, a Class “A” Conference.
- Won 3 (Emirates Foundation) Externally funded grants (800 000 AED, 2009-2015)
- Won 6 internal grants: 3 UPAR (2013, 2016), 6 SURE PLUS and 2 Center-based interdisciplinary (2014, 2019) and 1 start-up grants (2016) (total of 2,762,000 AED)
- Supervise 1 PhD. Student, co-supervision of 3 Ph.D. students. supervise 7 Master students

2. *Articles in Refereed Journals*

1. **S Bouktif**, A Cheniki, A Ouni, H El-Sayed Deep reinforcement learning for traffic signal control with consistent state and reward design approach Elsevier Knowledge-Based Systems 267, 110440, **2023 (IF: 8.14, top %5)**
2. M Daaji, A Ouni, MM Gammoudi, **S Bouktif**, MW Mkaouer. "**BPEL process defects prediction using multi-objective evolutionary search.**" Elsevier Journal of Systems and Software vol 204, 111767 (2023) (IF 3.5, Q1)
3. **Salah Bouktif**, Akib Khanday, and Ali Ouni "Bi-directional LSTM-based COVID-19 detection using Clinical Reports in The Eurasia Proceedings of Science, Technology, Engineering & Mathematics (EPSTEM), Volume 23, pp, 2023 (SJR:0.51)
4. K Sellami, A Ouni, MA Saied, **S Bouktif**, MW Mkaouer Improving microservices extraction using evolutionary search Elsevier Information and Software Technology 151, 106996, **2022 (IF: 3.862, SJR 1.44 ,Q1, top 10%)**
5. **S Bouktif**, A Ouni, S Lazarova-Molnar Towards a rigorous consideration of occupant behaviours of residential households for effective electrical energy savings: An overview **Energies 15 (5), 1741 2022, (IF: 3.004, top 25%, Q1)**
6. **S Bouktif**, A Cheniki, A Ouni Traffic signal control using hybrid action space deep reinforcement learning **Sensors 21 (7), 2302 , 2021, (IF 3.275 top 25%,Q1)**
7. Marwa Daagi Ali Aouni, Mohamed Gammoudi , **Salah Bouktif**, and Mohamed Wiem Mkaouer, "Multi-criteria Web Services Selection : Balancing the Quality of Design and Quality of Service in **ACM Transactions on Internet Technology (TOIT 2021) (IF: 3.135 top 25%,Q1)**
8. **S Bouktif**, A Fiaz, A Ouni, MA Serhani Multi-Sequence LSTM-RNN Deep Learning and Metaheuristics for Electric Load Forecasting MDPI **Energies 13 (2), 391(2020), (IF:2.707, top 25%,Q1)**
9. H El-Sayed, H Alexander, MA Khan, P Kulkarni, **S Bouktif** Machine learning based trust management framework for vehicular networks Elsevier **Vehicular Communications, 100256 (2020) (IF: 4.706 ,Q1, top 10%)**
10. H El-Sayed, HA Ignatious, P Kulkarni, **S Bouktif** DyReT: A Dynamic Rule Framing Engine Equipped With Trust Management for Vehicular Networks **IEEE Access 8, 72757-72767 (2020), (IF: 4.098, Q1, top 25%).**
11. **S Bouktif**, A Fiaz, M Awad Augmented Textual Features-Based Stock Market Prediction **IEEE Access 8, 40269-40282 (2020), (IF: 4.098, Q1, top 25%)**
12. N Almarimi, A Ouni, **S Bouktif**, MW Mkaouer, RG Kula, MA Saied Web service API recommendation for automated mashup creation using multi-objective evolutionary search Elsevier **Applied Soft Computing 85, 105830(2019), IF:4.873 (Q1, top 10%)**
13. **S Bouktif**, A Fiaz, A Ouni, MA Serhani Single and multi-sequence deep learning models for short and medium term electric load forecasting MDPI **Energies 12 (1), 149 (2019), IF:2.707(Q1, Top 25%)**
14. S Boukharata, A Ouni, M Kessentini, **S Bouktif**, H Wang Improving web service interfaces modularity using multi-objective optimization **Springer Nature Automated Software Engineering 26 (2), 275-312 (2019), IF:2.2 (Q2)**
15. MA Serhani, **S Bouktif**, N Al-Qirim, HT El Kassabi (2019)"Automated system for evaluating higher education programs" in the **Springer Nature Education and Information Technologies Journal 24 (5), 3107-3128 (2019) (IF:2.01, Q1 top 25%)**
16. A Ouni, H Wang, M Kessentini, **S Bouktif**, K Inoue A hybrid approach for improving the design quality of web service interfaces **ACM Transactions on Internet Technology (TOIT) 19 (1), 1-24 (2019), IF:2.382, Q1, top 25%).**
17. **Salah Bouktif**, Ali Fiaz, Ali Ouni, and M. Adel Serhani (2018) Optimal Deep Learning LSTM Model for Electric Load Forecasting using Feature Selection and Genetic Algorithm: Comparison with Machine Learning Approaches, **MDPI Energies 2018, 11(7) (IF 2.67, Q1)**

18. **Salah Bouktif** and Waleed K. Ahmed “Monitoring System for Residential Energy Consumption” *Journal of New Computer Architectures and their Applications* 5(4): 156-164, 2016
19. Ahmed, F.; Capretz, L.F.; **Bouktif, S.** & Campbell, P. “Soft Skills and Software Development: A reflection from Software Industry”, **International Journal of Information Processing and Management** 14(3) 2015.vol14. issue3.17 (SJR 0.111) **Class B**,
20. **Salah Bouktif**, Eileen Marie Hanna, Nazar Zaki and Eman Abu Khoussa “Ant Colony Optimization Algorithm for Interpreting a Combination of Bayesian Classifiers: Application to Heart Disease Prediction in the **PLOS ONE** 2014 (IF: 4.411 **Class A***, **Q1**, **top 10%**).
21. **Bouktif, Salah**, Houari Sahraoui, and Faheem Ahmed. "Predicting stability of open-source software systems using combination of Bayesian classifiers." **ACM Transactions on Management Information Systems (TMIS)** 5.1 (2014): (SJR: 0.89, **Q1**)
22. Faheem Ahmed, Luiz Capretz, **Salah Bouktif**, Piers Campbell, “Soft Skills Requirements in Software Development Jobs: A Cross Cultural Empirical Study”, **Emerald Journal of Systems and Information Technology in 2012 (SJR:0.189, Class C, acceptance rate 15%)**
23. Issa Khalil, Mamoun Awad, **Salah Bouktif** and Falah Awwad, MSN: mutual secure neighbor verification in multi-hop wireless networks. **Wiley Security and Communication Networks. DOI: 10.1002/sec.304 (2012) (IF:0.41)**,
24. **Salah Bouktif**, Faheem Ahmed, Issa Khalil, Giuliano Antoniol, A Novel Composite Model Approach to Improve Software Quality Prediction **Elsevier Information and Software Technology journal vol. 52 issue 12, p. 1298–1311 (2011) (IF:1.507, Q1, top 10%)**,
25. Nazar Zaki, **Salah Bouktif** and Sanja Lazarova, A Combination of Compositional Index and Genetic Algorithm for Predicting Transmembrane Helical Segments. **PLoS ONE 6(7): e21821. doi:10.1371/journal.pone.0021821 (2011) (IF: 4.411 Class A, Q1, top 10%)**.
26. Mohamed Adel Serhani, Abdelghani Benharref, Elarbi badidi, **Salah Bouktif** “Scalable Federated Broker Management for Selection of Web Services” **The Oxford Computer Journal (2012) IF:1.327, Class A, Q2**
27. Badidi E., Salem M.V., **Bouktif S.**, Esmahi L., “A Web Services based Framework for Uniform Integration of Command-line Bioinformatics Software Tools”. **International Journal on Web Services Practices (IJWSP), vol.4 issue 1, p. 36-43 (2009)**.
28. **Salah Bouktif**, Danielle Azar, Houari Sahraoui, Balázs Kégl and Doina Precup: Improving Rule Set Based Software Quality Prediction: A Genetic algorithm-based Approach, in **Journal of Object Technology, vol.3, no. 4, April 2004. (SJR:0.367, Class B)**

3. *Refereed conference proceedings*

1. Akib Khanday, **Salah Bouktif** and Ali Ouni, “RNN-based Model for an Optimal COVID-19 Cases Detection using Clinical Reports”,in The 9 th IEEE International Conference on Optimization and Applications, Abu Dhabi, UAE, October 05-06, 2023. (**Scopus**)
2. **Salah Bouktif** and Ali Ahmad, “Saving Energy and Maintaining Indoor Comfort Level: A Reinforcement Learning Based Approach” in 2023 IEEE 11th International Conference on Smart Energy Grid Engineering (SEGE 2023) Oshawa, Canada August 13-15, 2023 (**Scopus**)
3. **Salah Bouktif**, Ali Ahmad, Shehab Khan and Nasser Alkaabi, “A Reinforcement Learning Based Approach to Recommend Appropriate Occupant Behaviors” in the 6 th International Conference on Big Data and Artificial Intelligence BDAI 2023 Jiaxing, China, July 7-9, 2023 (**Scopus**)
4. Iman Megdadi, **Salah Bouktif**, and Nimmi Kunnath “Data-Driven Student performance Modeling in Distance Learning Time: COVID-19 Era” in 2023 International Conference on Educational Technology (ICET 2023) Xi’an, China, September 15-17, 2023, (**Scopus**)

5. **Salah Bouktif**, Akib Khanday, and Ali Ouni “LSTM-based COVID-19 Detection using Clinical Reports: in the International Conference on Research in Engineering, Technology and Science (ICRETS 2023) Budapest, Hungary, 06-09 July, 2023 (**Scopus**)
6. R Alexandre, A Ouni, MA Saied, **S Bouktif**, MW Mkaouer, On the identification of third-party library usage patterns for android applications, The International Conference on Evaluation and Assessment in Software Engineering, (2022) (**Class A**)
7. **S Bouktif**, A Cheniki, A Ouni, H El-Sayed Traffic signal control based on deep reinforcement learning with simplified state and reward definitions **2021 4th International Conference on Artificial Intelligence and Big Data, China, May, 2021**
8. **Salah Bouktif** and Ayisha Manzoor, “Artificial Intelligence as a Gear to Preserve Effectiveness of Learning and Educational Systems in Pandemic Time 21-23 April in Vienna, Austria 2021
9. **Salah Bouktif**, Ali Fiaz, Ali Ouni, Badreyya Alnaqbi and Fatmah Alseredi “Bayesian Optimized XGBoost Model for Traffic Speed Prediction Incorporating Weather Effects” Alseredi 2020 International Conference On Intelligent Computing in Data Sciences (ICDS) Fez, Morocco October 21-23
10. H El-Kassabi, MA Serhani, **S Bouktif**, A Benharref Multi-Model Deep Learning for Cloud Resources Prediction to Support Proactive Workflow Adaptation 2019 **IEEE Cloud Summit, 78-85 IEEE Washington DC, USA (2019)**
11. **S Bouktif**, A Fiaz, M Awad Stock Market Movement Prediction using Disparate Text Features with Machine Learning 2019 **International Conference on Intelligent Computing in Data Sciences Oct 2019 Marrakech, Morocco (2019)**
12. **Salah Bouktif** and Ali Fiaz, “Deep learning with LSTM networks for Medium to Long Range Demand Forecasting” ECOS 2018 - **31st International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy system**, 17-22, June 2018, Guimaraes, Portugal,
13. Noura Albalooshi, Shamsa Aleissae, Ali Fiaz and **Salah Bouktif** 10th Annual Conference on Undergraduate Research on Applied Computing, URC 2018, 25-26 April 2018, Zayed University, Dubai, UAE.
14. Marwa Daagi, Ali Ouni , Marouane Kessentini, Mohamed Mohsen Gammoudi, **Salah Bouktif** “Web Service Interface Decomposition Using Formal Concept Analysis” 24th IEEE International Conference on Web Services June, 2017, Hawaii, USA (**Class A**)
15. Ali Ouni, Marwa Daagi, Marouane Kessentini, **Salah Bouktif**, Mohamed Mohsen Gammoudi “A Machine Learning-Based Approach to Detect Web Service Design Defects” 24th IEEE International Conference on Web Services June, 2017, Hawaii, USA (**Class A**)
16. Najah A. Abu Ali, Mervat Abu-Elkheir, and **Salah Bouktif** (2016) “Utilizing VIN for Improved Vehicular Sensing”, in the 2016 **IEEE Wireless Communications and Networking Conference**, 3-6 April 2016, Doha, Qatar
17. **Bouktif S.** and Adel Awad M. (2015). “Predicting Stock Market Movement: An Evolutionary Approach”. In Proceedings of the 7th International Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management, pages 159-167, Lisbon Portugal, 11-15 Nov 2015. A top conference with **6 reviewers and a rebuttal letter**
18. Shamsa Zayed Aleissae, Noura Humaid Albalooshi, Ali Fiaz and **Salah Bouktif**, “Short and Medium Term Electric Load Forecasting Using Deep Learning: Comparison with Machine Learning Benchmark Models” the 4th Annual Undergraduate Student Research Conference April 2018, UAEU, Al Ain, UAE,
19. Noura Albalooshi, Shamsa Aleissae Ali Fiaz and **Salah Bouktif**, “Analysis of Machine Learning Usage For Building Energy Consumption: Identifying the Best Practices For Designing Effective Workflows” the 4th Annual Undergraduate Student Research Conference April 2018, UAEU, Al Ain, UAE.

20. **Salah Bouktif** and Mamoun Awad “Ant colony based approach to predict stock market movement from mood collected on Twitter” The IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining ASONAM 2013, Niagara Falls, Canada, August 25-28, 2013, **acceptance rate 13%**
21. **Salah Bouktif** and Mamoun Awad: “Evolutionarily Pooled Bayesian Classifiers to Predict Stock Market Movement” the IEEE International Conference on Artificial Intelligence, Sousse, Tunisia 24-27 June, 2013.
22. IM Khalil, A Khreishah, S Bouktif, A Ahmad “Security Concerns in Cloud Computing” The 10th International Conference on Information Technology: New Generations, Las Vegas, Nevada, USA, 15-17 April 2013
23. Nazar Zaki, Salah Bouktif and Sanja Lazarova, "A Genetic Algorithm to Enhance Transmembrane Helices Topology Prediction Using Compositional Index", ACM Genetic and Evolutionary Computation Conference (GECCO2011), Dublin, Ireland, July 12-16. Preprint, **Won the Best Paper Award.** (2011) **Class A, 3 Citations. Corresponding Author.**
24. Abdelghani Benharref, Adel Serhani, **Salah Bouktif** and Jamal Bentahar, “Online monitoring for sustainable communities of Web Services”, 12th IFIP/IEEE International Symposium Integrated Management, Dublin, Ireland, 23-27 May (2011) **Class A,**
25. Abdelghani Benharref, Adel Serhani, **Salah Bouktif** and Jamal Bentahar, “A new Approach for Quality Enforcement in Communities of Web Services”, IEEE International Conference on Services Computing Washington DC, USA, 4-9 July (2011) **Class A**
26. **Salah Bouktif**, M. Adel Serhani, and A. Benharref, “Reducing the Gap Between Software Engineering Curriculum Material and Market Needs”, The annual International Conference on Education and New Learning Technologies, Barcelona, Spain, 5-7 July, (2010).
27. Abdelghani Benharref, Adel Serhani, **Salah Bouktif** and Jamal Bentahar “A Managerial Community of Web Services for Management of Communities of Web Services” in the 10th Annual International Conference on New Technologies of Distributed Systems, Tozeur, Tunisia, May 31- June 2, (2010)
28. Faheem Ahmed, **Salah Bouktif**, Luiz Capretz, “Organizational Behavior & Software Product Line Engineering: An Empirical Study”, the ACS/IEEE International Conference on Computer Systems and Applications (AICCSA-09), Rabat Morocco 2009. **Class C.**
29. Badidi E., Esmahi L., Serhani M.A., **Bouktif S.**, “A Web Services based Framework for Uniform Integration of Command-line Bioinformatics Software Tool”, The Innovations in Information Technology Conference (Innovations’08), AL-AIN, UAE, December (2008),
30. Faheem Ahmed, **Salah Bouktif**, Adel Serhani and Issah Khalil, “Integrating Function Point Project Information for Improving the Accuracy of Effort Estimation”, International Conference on Advanced Engineering Computing and Applications in Sciences ADVCOMP’08, Valencia, Spain, (2008),
31. Ayari Kamel, **Salah Bouktif** and Giuliano Antoniol, “Automatic Test Data Generation for Mutation Testing Via Ant Colony Optimization”, ACM Genetic and Evolutionary computation Conference, Software Eng. Track GECCO’07, London Uk, 2007. **Class A**
32. **Salah Bouktif**, Ayari Kamel and Giuliano Antoniol, Extended, “Ant Colony Optimization for Mutation Testing Data Generation”, The Seventh Metaheuristics International Conference, Montreal, Canada (2007).
33. **Salah Bouktif**, Yann-Gael Gueheneuc, and Giuliano Antoniol, “Extracting Change-patterns from CVS Repositories”, IEEE Working Conference on Reverse Engineering, WCRE, Benevento, Italy, Oct 23-27, (2006). **Class A,**

34. **Salah Bouktif**, Giuliano Antoniol, Markus Neteler and Ettore Merlo, “A feedback based quality assessment to support open source software: the GRASS case study”, IEEE of the International Conference of Software Maintenance ICSM, Philadelphia, USA (2006). **Class A**,
 35. **Salah Bouktif**, Houari Sahraoui and Giuliano Antoniol, “Simulated Annealing for improving software quality Prediction” in the ACM Genetic and Evolutionary computation Conference Software Engineering Track GECCO, Seattle, USA, July 8-12 (2006). **Class A**,
 36. **Salah Bouktif**, Giuliano Antoniol, Markus Neteler and Ettore Merlo, A Novel approach to Optimize Clone Refactoring Activity, ACM Genetic and Evolutionary Computation Conference Software Engineering Track GECCO , Seattle, USA, July 8-12 (2006). **Class A**,
 37. **Salah Bouktif**, Balázs Kégl and Houari Sahraoui Combining Software Quality Predictive Models: An Evolutionary Approach, In IEEE of the International Conference of Software Maintenance ICSM Montreal, Canada, (2002). **Class A**,
 38. Danielle Azar, **Salah Bouktif**, Balázs Kégl, Houari Sahraoui and Doina Precup Combining And Adapting Software Quality Predictive Models By Genetic Algorithms, In IEEE Automated Software Engineering, ASE’02, Edinburgh, Scotland, UK. (2002). **Class A**,
 39. **Salah Bouktif**, “Context driven combination of Software Quality Predictive Models”, 13th International IEEE Symposium on Software Reliability ISSRE’02, Washington DC, US(2002).**Class A**
 40. **Salah Bouktif**, Balázs Kégl and Houari Sahraoui, “Combining and Adapting Software Quality predictive Models”, European Conference on OO. Programming, Quantitative Approaches in Object-Oriented Software Engineering ECOOP Málaga, Spain (2002). **Class A**,
4. **Book Chapter**

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41. **Salah Bouktif** and Waleed K. Ahmed (2014) “Monitoring Framework for Cost-Effective Energy Consumption in a Building” Chapter ICREGA’14 - Renewable Energy: Generation and Applications Part of the series Springer Proceedings in Energy pp 233-240, 02 July 2014

5. **Technical reports**

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37. Ayari Kamel, **Salah Bouktif** and Giuliano Antoniol, “Ant Colony Optimization for testing data generation”, **EPM-RT-2007-01, Polytechnic Engineering School of Montreal**, 2007.
 38. **Salah Bouktif**, Giuliano Antoniol, Ettore Merlo and Markus Neteler, “A plugin based architecture for software maintenance”, **EPM-RT-2006-03, Polytechnic Engineering School of Montreal**, 2006.
 39. **Salah Bouktif**, “Improving software quality prediction by combination and adaptation of models”, **Ph.D. dissertation, DIRO Department**, University of Montreal, Canada, June 2005.

6. **Projects and Grants**

III/ External Grants

- 1- (PI) **ASPIRE** Award for Research Excellence “Leveraging Artificial Intelligence and Big data Analytics to Understand COVID-19 Behavior and to Recommend Effective Responses to Curb the Pandemic.”, **2022-2025, 965.000 AED.**
This is a very complete grant from the Advanced Technology Research Council (ATRC) of the government of Abu Dhabi (2022-2025), with an approximate acceptance rate of 5%.
- 2- (PI) **ADEK** Award for Research Excellence “Traffic Big data analytics using advanced artificial intelligence approaches: deep learning and multi-objective large scale optimization”, 2019-2021, 300.000AED. **It is also very competitive grant awarded by Abu Dhabi Education and Knowledge Council 2018-2020. I was the sole winner among 18 proposal submitters from the College of information technology, with an acceptance rate less than %5.**

- 3- (PI) UK-UAEU-JRP grant “Leveraging Social Network analysis and Time Series Machine Learning for Predicting and Visualizing a Disease’s Outbreaks (961,000 AED), 2023-2025.
- 4- (PI) Emirate Foundation Grants “Remote health monitoring in UAE,” July 2013 – July 2014, 125,000 AED (with F. Awwad).

IV/ UAEU Grants

- 5- **(PI) UPAR grant 2023-2025:** Optimizing Energy Consumption and Human Comfort through Simulation of Occupant Behavior Using Deep Reinforcement Learning, **(400,000 AED)**
- 6- **(PI) Center-Based Grant:** “Agent-Based Simulation Enhanced with Big Data and Artificial Intelligence Methods to Simulate and Optimize Traffic Flow” 2020-2022, 275. 000AED.
- 7- **(PI) UPAR Grant** Predictive Big Data analytics and Real-Time Monitoring and towards Energy Conservation (400 000 AED, 2016-2018/06)
- 8- **(PI) Start-up Grant** Search-Based Software Engineering For Cost-effective System Development 2016-2018, 400.000AED
- 9- **(Co-PI) UPAR Grant** Cloud-based End-to-end QoS enforcement in Big Data value chain, 2016,-2018/06, 400,000AED.

I have secured the following SURE PLUS grants

- 10- **(PI) Sure-Plus Project Grant** “Unraveling the Impact of Factors on Student Success in Online Education: A Data-Driven Approach with Interpretable Models” 2023, 32,000AED
- 11- **(PI) Sure-Plus Project Grant** “How should building occupant behave towards saving energy and maintaining his/her indoor comfort level? A Reinforcement Learning Based Approach” 2022, 42,000AED
- 12- **(PI) Sure-Plus Project Grant** “Cost-effective dynamic vehicle routing using multi-objective search guided by fresh data collected in near-real time basis” 2019, 47,500AED
- 13- **(PI) Sure-Plus Project Grant** “New Approach for the Stock Market Movement Prediction using Mood Sentiment collected from Tweets”, 2018, 65,000 AED
- 14- **(PI) Sure-Plus Project Grant** Predictive analytics towards effective electrical energy demand forecasting (45 000 AED, summer 2017)
- 15- **(PI) Sure-Plus Project Grant** New Approach for the Stock Market Movement Prediction using Mood Sentiment collected from Tweets (65,000 AED, 2018)
- 16- **(PI) UAEU Individual Grant** “Framework for Fault proneness prediction”, 20000 AED (2008).
- 17- **(PI) UAEU Individual Grant** “Towards a Software Testing Architecture Aided by Search-Based Techniques”, 17500 AED (2009).

7. *Graduate Student Supervision:*

PH.D. Theses

1. Supervision of a Ph.D. student Miss Medha Mohan Ambali Parambil “Artificial intelligence and security issues” CIT, UAEU, in Progress
2. Co-Supervisor of a Ph. D. student (Miss Marwa Zayana) in the University of Mannouba, Tunisia (RIADI Lab) subject: “Software Product Line construction Using Reverse Engineering of characteristic models built on software variants”**(defended successfully in June 2022).**
3. Co-Supervisor of a Ph.D. student (Miss Marwa Daagi) in the University of Mannouba, Tunisia subject: “Multi-criteria Web Services Selection: Balancing the Quality of Design and Quality of Service.”**(defended successfully in June 2022).**
4. Co-Supervisor of a Ph.D. student (Nuri Almarimi) in ETS Montreal, Canada, Subject: “Web service API recommendation using multi-objective evolutionary search)” in Progress .

Master Theses

5. Supervisor Master Student Eman Saad Megdadi “Data-driven modeling of student performance in the time of distance learning” CIT, UAEU, **Defended successfully in May, 2023**
6. Supervisor Master Student Safa Matar Al Senani “A Rigorous Covid-19 Infection Modeling in School Environment. CIT, UAEU, **Defended successfully in November 2022**
7. Co-Supervisor of a MSc. student (Miss Mahmouda Ayman) in Sultan Qaboos University. Subject “Requirements modeling languages for software product lines” **Defended successfully in 2018**
8. Supervisor Master Student Jiyana Nikhil “Combining Metaheuristics and Reinforcement Learning for Traffic Signal Control” CIT, UAEU, Fall 2023
9. Supervisor Master Student Aysha Manzoor “Selecting the appropriate mode of learning and tools based on course characteristics”, CIT, UAEU, Fall 2023

8. *Fellowships, Awards Given for Research, and Affiliation*

- Received **1st Award of the 2018 MDPI *Energies* (IF: 2.707) Best Paper Award** Announced in May 2020.
- Outstanding Service Award: College of Information Technology, UAE University, June 2015.
- Received Best paper award at GECCO 2011, Dublin, Ireland
- Received The ISSRE'2002 PhD. student award from Microsoft, IBM and Digital, Washington DC. USA 2002
- Received the Ph.D. Fellowship, University of Montreal, 2001
- Received the Ph.D. Fellowship, University of Montreal, 2002
- Received the Ph.D. Fellowship, University of Montreal, 2003
- Received Dissertation Fellowship, University of Montreal, 2004
- IEEE Member
- ACM Member

9. *Presentations and invited talks*

- RNN-based Model for an Optimal COVID-19 Cases Detection using Clinical Reports”,in The 9 th IEEE International Conference on Optimization and Applications, Abu Dhabi, UAE, October 05-06, 2023.
- Saving Energy and Maintaining Indoor Comfort Level: A Reinforcement Learning Based Approach” in 2023 IEEE 11th International Conference on Smart Energy Grid Engineering (SEGE 2023) Oshawa, Canada August 13-15, 2023
- A Reinforcement Learning Based Approach to Recommend Appropriate Occupant Behaviors” in the 6 th International Conference on Big Data and Artificial Intelligence BDAI 2023 Jiaying, China, July 7-9, 2023
- Data-Driven Student performance Modeling in Distance Learning Time: COVID-19 Era” in 2023 International Conference on Educational Technology (ICET 2023) Xi’an, China, September 15-17, 2023
- LSTM-based COVID-19 Detection using Clinical Reports: in the International Conference on Research in Engineering, Technology and Science (ICRETS 2023) Budapest, Hungary, 06-09 July, 2023
- Traffic signal control based on deep reinforcement learning with simplified state and reward definitions 2021 4th International Conference on Artificial Intelligence and Big Data, China, May, 2021(Online)
- Artificial Intelligence as a Gear to Preserve Effectiveness of Learning and Educational Systems in Pandemic Time 21-23 April in Vienna, Austria 2021(Online)
- Bayesian Optimized XGBoost Model for Traffic Speed Prediction Incorporating Weather Effects, Alsereidi 2020 International Conference On Intelligent Computing in Data Sciences (ICDS) Fez, Morocco October 2020 (Online)

- Stock Market Movement Prediction using Disparate Text Features with Machine Learning 2019 International Conference on Intelligent Computing in Data Sciences Oct 2019 Marrakech, Morocco (2019)
- Traffic big data analytics using advanced artificial intelligence approaches, ADEK Award for Research Excellence (AARE) Conference, NYUAD, Abu Dhabi, May 2, 2019
- Deep learning with LSTM networks for Medium to Long Range Demand Forecasting” ECOS 2018, Guimaraes, Portugal,
- Predicting Stock Market Movement: An Evolutionary Approach The 7th international conference on Knowledge Discovery and Information Retrieval, KDIR 2015, Lisbon, Portugal,
- Ant colony-based approach to predict stock market movement from mood collected on Twitter” The IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining ASONAM2013, Niagara Falls, Canada, August, 2013
- “Research interests and works” Departmental workshop CIT 2009
- “A Novel Approach to Optimize Clone Refactoring Activity” in the ACM Genetic and Evolutionary Computation Conference GECCO, SBSE track, Seattle, USA, July 2006.
- “Simulated Annealing to Improve Software Quality Prediction” in the ACM Genetic and Evolutionary Computation Conference GECCO, SBSE track, Seattle, USA, July 2006.
- “Combining and Adapting Models” in GEODES seminar, University of Montreal 2003.
- “Software Quality State of Art and Software Quality Models”, Invited talk in Software maintenance course of Prof. Yann Gael, University of Montreal 2003.
- “Improving Software Quality Prediction Case of Bayesian Classifiers” in GELO seminar, University of Montreal 2003.
- “Context Driven Combination of Software Quality Predictive Models” in ISSRE Conference, Washington DC, 2002.
- “Software Quality Evaluation by Models Combination: Evolutionary Approach” in University of Montreal, Canada 2002.
- “Genetic Algorithm for Software Quality Models Combination” in GELO seminar, University of Montreal 2001

10. *Editorships, Editorial Boards, and Reviewing Activities*

- [Associate Editor in Journal of Intelligent & Fuzzy Systems, Q2 Journal](#)
- [Editorial Member of Journal of Information & Knowledge Management](#)
- **Guest Editor. MDPI Mathematics and Computer Science, Special Issue: Machine Learning, Data Mining and Metaheuristics Applications in Software Engineering**
- **Book Editor:** of a book titled: *The Intersection of Machine Learning and Computational Social Sciences*, book series: Computational Methods for Industrial Applications Series Editor Bharat Bhushan, CRC Press, Francis and Tylor Group: **(Proposal Submitted)**
- **PC Member in IT Innovation 2009 -2018**
- **Chair of Software and Intelligent System track in IT Innovations 2013.**
- **External Referee for the Rashid Bin Humaid Award for Culture and Sciences, 2017-2023**
- **External examiner for the Master. thesis dissertations at Zayed University UAE**
- **Chair of Data Mining track in IT Innovations 2011.**
- **Chair of Software Engineering Track in IT Innovations 2009**
- Member of the Organizing Committee, IEEE workshop on “Automation, Control, and Information Technologies: Opportunities at the Crossroads” UAEU, CIT, Al Ain, UAE, November 5, 2009.
- Organizing committee of the 2nd CIT eGovernment forum: “Drafting an Agenda for Success in UAE,” hosted by CIT, 18th of May, 2010.
- Organizing committee member of IEEE ASE Conference Automated Software engineering, Montreal, Canada. October 2003,

- Student Volunteer in OOPSLA Conference “Object Oriented Programming, Systems, Languages and Applications” October 2000, Minneapolis (USA),
- Student Volunteer in OOPSLA Conference “Object Oriented Programming, Systems, Languages and Applications” October 2001, Tampa Florida (USA)
- Organizing committee member of LMO2000 Conference Language and Object Models. Mont Saint Hilaire, Quebec, Canada, January 2000

Referee for journals

- I’m serving as reviewer and outstanding reviewer for many top and prestigious journals:
- IEEE Big Data Mining and Analysis
- IEEE Transactions on Emerging Topics in Computational Intelligence
- IEEE Transactions on Artificial Intelligence
- IEEE Transactions on Neural Networks and Learning Systems
- Elsevier Engineering Applications of Artificial Intelligence
- IEEE Transactions on Systems, Man, and Cybernetics, Part A: Systems and Humans
- IEEE Transactions on Services Computing
- IEEE ACCESS
- Elsevier Journal of Systems and Software
- Elsevier Computer Science review,
- Elsevier Engineering Applications of Artificial Intelligence,
- Elsevier Expert Systems with Applications,
- Elsevier Neural Networks,
- Taylor & Francis International Journal of Digital Earth
- MDPI Energies
- Journal of software
- IET software
- Springer Soft Computing

Referee for the following conferences

- IEEE EDUCON 2022,2023
- International Conference on Web Services ICWS 2022.
- IT Innovations 2013 - 2020
- ECOS 2018.
- IEEE-GCC2015, 2016.
- International Conference on Artificial Intelligence and Big Data (ICAIBD) 2021.
- Conference On Intelligent Computing in Data Sciences (ICDS)2021
- IIT2020,
- ICWS2017.
- ICSW 2019.
- ICDS2019.
- ICDS2020.
- IEEE EDUCON 2021

Chair the following conference sessions

- Chair of session at Innovation Conference Yas Island, Abu Dhabi, April 2011.
- Chair of session at Innovation Conference Al Ain December 2009.
- Chair of session at Innovation Conference, Al Ain December 2008.
- Chair of software session at Innovation 2007 Conference, Dubai, November 2007.
- Chair of Tutorial session at Innovation 2007 Conference, Dubai, November 2007.

IV. TEACHING, MENTORING, AND ADVISING

1. Summary of Teaching Achievements

- **Teaching Excellence Award Academic Year 2022-2023**
- I accomplished **27** years of teaching experience (at University of Montreal, Polytechnic of Montreal, UAE University, and University of Tunis)
- Taught **10** different undergraduate course subjects and **6** graduate course subjects within CIT, UAEU
- Taught more than 120 students' groups (120 Sections) Since joining UAE University **During the 10 last years, I have taught 77 sections** over 20 semesters, at a rate of **3.85 sections per semester.**
- The average teaching load is **11.55 Teaching Credit Hours/Semester (i.e., 23 Cr.H./Academic Year- between 7 and 8 course-sections /AY)**
- The number of undergraduate taught sections is **62** (SEE Table T1)
- The number of graduate taught sections is **14** (SEE Table T1)
- The number of undergraduate taught courses is **10**
- The number of graduate taught courses is **5**
- Developed **4** undergraduate and **4** graduate courses
- Developed **5** course-labs
- Coordinated of **6** undergraduate and **4** graduate courses
- Advising more than **40** students per term in their study plans
- Supervising more than **38** students in their graduation projects
- Published **4** educational papers

Table T1: Teaching Load, Course diversity During 9 last Years

	Corse code	Course Title	#Taught Sections/course
1	SWEB 300	Software Engineering fundamentals	10
2	ITBP 481	Senior Graduation II	6
3	CSBP 316	Human Computer Interaction	22
4	SWEB 319	Data Structure	2
5	CSBP 219	OO Programming	9
6	ITBP 480	Senior Graduation I	6
7	CSBP 221	OO Programming Lab II	1
8	SWEB 423	Software Testing and QA	8
9	ITBP 498	Independent Study	1
10	CSBP112	Introduction to Programming	1
Total undergrad.			62+3
11	ITCO 603	Sys. Analysis, Modeling & Des.	1
12	SWEB 702	Software Engineering	1
14	ITPG 690	Practicum Project	5
15	SWEB 653	Software testing and QA	8
Grad. Total			14+1
All Sections			76+4*

(*number of sections taught in Fall2023)

2. *In the College of Information Technology, U.A.E.U September 2007 - Present*

Master Program Coordinator of Software engineering since September 2019 (More than 4 years)
Associate Professor of Software Engineering since September 2014.
Assistant Professor of Software Engineering since September 2007

3. *Teaching Publications*

1. Iman Megdadi, **Salah Bouktif**, and Nimmi Kunnath “Data-Driven Student performance Modeling in Distance Learning Time: COVID-19 Era” in 2023 International Conference on Educational Technology (ICET 2023) Xi’an, China, September 15-17, **2023, (Scopus)**
2. **Salah Bouktif** and Ayisha Manzoor, “Artificial Intelligence as a Gear to Preserve Effectiveness of Learning and Educational Systems in Pandemic Time 21-23 April in Vienna, Austria 2021
3. MA Serhani, **S Bouktif**, N Al-Qirim, HT El Kassabi (2019)“Automated system for evaluating higher education programs” in the **Springer Nature Education and Information Technologies Journal** 24 (5), 3107-3128 IF:2.01
4. **Salah Bouktif**, M. Adel Serhani and A. Benharref “Reducing the Gap Between Software Engineering Curriculum Material and Market Needs” **the annual International Conference on Education and New Learning Technologies**, Barcelona (Spain), 5-7 July, (2010).

4. *Teaching Experience In Other Universities*

1. **Polytechnic Engineering School of Montreal, Canada** **2004-2007**

Software Engineering department, SOCCER Lab, polytechnic of Montreal

Taught Courses

- Software testing and verification
- Introduction to Computer Science, Operating System, Data Bases
- Software tools for Engineers
- Web Development: Java, JavaScript, HTML,

Supervision activities

- Supervision of three graduate students in building tools based on Taboo Search and Ant Colony Optimization to generate optimal testing data set of JAVA Methods and C Functions,
- Co-Supervision of one Master students **Kamel Ayari** “ **Using Ant Colony to Generate Test Data for Mutation Testing**” Polytechnic school of Montreal 2006-2007.

2. **University of Montreal, Canada** **2000-2004**

Taught Courses

- Software Quality and Metrics
- Programming I : Java
- Software development and maintenance
- Software Engineering I
- Information Technologies Workshop: Master in e-commerce)

3. **University of Tunis I, Higher Institute of Technology of Rades, Tunisia** **1996-1999**

Taught Courses

- Introduction to Computer Science
- Information Systems
- DBMS Access
- Visual Basic Programming
- C programming

Supervision Activities

- Supervision of two undergraduate students in building a software system to manage the maintenance procedures of the rails vehicles SNCFT, Tunisia summer 1997.
- 1. **CEGEP of Old Montreal, Quebec, Canada 1996-1996 (Teaching internship during one full Spring Term)**

Taught Courses

- Teaching of C Programming and Unix Operating System

V. **SERVICES AND PROFESSIONAL ACTIVITIES**

1. *Summary of professional achievements for the community*

- **Master Program Coordinator September 2019- present**
- **Won the award of Excellence in services at the college level (2015-2016)**
- **Chair of the third IT Marathon National Competition 2010, (2015, 2016, Co-chair).**
- **Chair of the Marketing and recruitment Committee in 2015-2016 and 2016-2017**
- **IT Marathon Special Needs IT Competition Founder and Organizer 2010-2019**
- **Chair of local arrangement of IT Innovations Conference 2009**
- **Chair of local Arrangement of the 2nd, 3rd and 4th IT Marathon National Competitions 2009, 2010 and 2011(dispenses reduced from 300 000 to 120 000 AED)**
- **Chair of local Arrangement of the National Programming Contest, NPC 2009**
- **Co-Chair of Local Arrangement of The IT Innovations Conference 2008**

2. *Major Events Organizing Committees*

1. **General Chair of the third IT Marathon 2010, 2015, 2016 (co-chair)**

The IT Marathon is a national competition that brings together talented students from high schools throughout the UAE to meet with peers as well as with industry and academic experts. One aim of this event is to expand young minds' IT literacy scope and encourage IT innovation. A second major goal of this event is to serve as recruitment event of high school students to join the College of Information Technology at UAEU. Over **420** students selected from **80** schools across the seven Emirates of UAE took part in the third edition of this national competition. The overall attendance including team coaches, students, educational zones' participants, and faculty members exceeded **600**. Even though this number of participants presented huge challenges for the organizing committee, the event organization and management was very successful and smooth. This was due to efforts and team work spirits shown by the main organizers of the competition.

- Committee formation and member recruitment to serve on the various committees
- Detailed task planning and scheduling for each committee
- Filing and securing the financial support budget with justifications (**150,000 DHS**)
- Follow up the step-by-step progress of the tasks assigned to each committee
- Visit Schools and Educational zones across the **7** UAE emirates to promote the competition among high school students.
- Design Arabic/English website to host the description, the criteria, and other exhaustive details about the competition.
- Arrange and obtain a virtual class on the blackboard to host the questions of the competition.
- Supervise the competition and the question marking process.

- Prepare and supervise the general competition rules and the judging criteria and guidelines for the various IT Marathon categories (ITContest, ITShowcase, ITThinker, and Special-Needs Competition).
- 2. Chair of Software engineering Tack in Innovations'09**
- 3. Chair of data Mining Tack in Innovations'11**
- 4. Chair of Software and Intelligent System Tack in Innovations'12**
- 5. Special Need IT Competition Founder and Organizer 2010, 2011, 2012 and 2013, 2017, 2018,2019,2023**

As a general chair of the IT Marathon 2010, I have created the Special Needs IT Competition, within the IT Marathon event in which participate special need students from all the UAE schools and handicaps formation centers. This special needs IT competition become a new tradition in IT Marathon and has attracted national organization to financially support the IT Marathon in 2010 with **200 000 AED** from Abu Dhabi Water and Electricity Authority (ADWEA) and in 2011 with **200 000 AED** from Abu Dhabi Educational Council (ADEC).

6. Chair of Local Arrangement of the IT Marathons 2009, 2010 and 2011

The local arrangement chair mission in the IT Marathon was not only to prepare the competition rooms and exhibition areas and to accommodate 580 (participants, coaches and judges) but also advertise the CIT program and facilities. Towards this aim a workshop involving faculty members and high school teachers (around 70 student coaches) is organized to present and discuss IT programs. New prizes for coaches were created to strengthen their friendship with the CIT. While preserving high the quality of accommodation, gift packages and prizes the budget was compressed (**from 150 000 to 115 000 AED**).

7. Chair of Local Arrangement of the IT Innovations 2009

The local arrangement of the IT conference represents easily more than 50% of the workload that should be done to make a successful forum. IT Innovations 2009 was held for the second time in the new CIT building and this is was a challenging decision especially for the opening and closing ceremony. My duties in the IT Innovation include the following:

- Make sure that the different venues are booked and available for all the days of the conference this includes working with **KHADAMAT** (University building manager) in order to book and assign session and tutorial rooms.
- Book and arrange the breakfasts and Lunches venue.
- Collect and select best offers for food and beverages from hotel and restaurants.
- Collect and select best offers for the attendees' package (Bags, flash memory, T-shirt...etc)
- Make hotel reservation for the Conference Guests as well as their transportation
- Ensure the transportation for the conference attendees for the hotels (City Seasons Intercontinental and Rotana) to the CIT Building back and forth.
- Following up with the Hilton Hotel administration for the scheduling, access and organization of the breakfasts and lunches during the three days of the conference.
- Visiting conference package suppliers in Sharjah and Dubai
- Many more activities, scheduled, unscheduled, expected and unexpected tasks.
- **Participating in the organization of the yearly College Programming Contest /CIT 2010**
- **Chair of Local Arrangement of the National Programming Contest, NPC 2009**
- **Co-Chair of Local Arrangement of The IT Innovations 2008**
- **Organizer of NPC, National Programming Contest CIT 2008**
- **Organizer and Judge of the IT Marathon CIT 2008**
- **Organizing committee member of Innovation 2007 Dubai, November 2007**

3. *CIT internal committees*

- Chair of the Marketing and recruitment Committee in 2015-2016 and 2016-2017
- Chair of the textbook committee for **6 academic years** since 2017
- Chair of the committee of establishing new Master program in Machine Learning and Data Science from January 2021-December 2021
- **Chair of the publicity task force 2012**
- Member of the following committees
 - CSSE- Assessment committee 2022-2023, 2023-2024
 - Search committee 2007-2008, 2013-2014, 2015-2016, 2017-2018, 2022-2023, 2023-2024
 - Curriculum committee 2017-2018/2019-2020/2021-2022
 - Faculty evaluation committee 2009-2010, 2020-2021
 - Research and Graduate study committee for **6 academic years** (2007-2008/2009-2010/2018-2019/2019-present)
 - Textbook Committee 2013-2014, 2015-2016
 - Social committee 2010-2011
- Member of the following taskforce/ad hoc committees
 - Publicity 2011-2012
 - Faculty evaluation task force member (2018-2019)
 - ABET task force 2008-2009
 - Core Courses revision and improvement

4. *Community Outreach and External Committees*

1. **UAEU (Efors)-FEWA Consultancy Team 2008-2009**

I was appointed by the Research Affairs Director of the University (Dr. Maitha Al Shamsi) to represent the UAEU as a consultant and mediator between **FEWA, Federal Electricity and Water Authority** and **RAQMYAT**, a software developing company. This is was in order to accomplish FEWA management software system maintenance.

2. **Special Needs IT Competition task force CIT- Sheikh Zayed foundation for special needs Abu Dhabi, 2010-2011-2012-2013-2014-2015-2016-2017-2018,2019.**